THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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BENJAMIN CARTLEDGE

With deep regret we have to annonnce the death from pneumonia of Mr. Benjamin Cartledge of Sheffield. His cheery genial manner endeared him to all who knew him, and his prominent position in the profession had created for him a very wide circle of friends. He graduated from the Royal Veterinary College in 1848, and was elected a Vice-president in 1858. In the following year he became a Member of Council—a position which he retained till the time of his death. Mr. Cartledge was elected President in 1871 and a Fellow in 1877 He will be best remembered in association with the Board of Examiners, to which he was appointed as long ago as 1859 and from which he only severed his connection by resignation in 1891. The news of his decease only reaches us as we are going to press and we must defer a fuller notice of his long career till next week. The profession has distinctly lost a man of mark and one of its most eminent leaders.

THE CHRISTMAS EXAMINATIONS.

This week the Royal College of Veterinary Surgeons has held examinations in England and Scotland--with, we hear. quite the usual average of rejections. An examination should be arranged, as to time, to suit the convenience of the schools and the candidates. The best time is without doubt, at the termination of the course of teaching specially given for the examination. Now, no course of teaching either begins or ends at Christmas. and therefore, we must seek some other reason for this examination. It is to be found in the mutual desire of the College and the schools to release from further study, all students who may have complied with the regulations. The Christmas examination saves candidates who were rejected in May, from having to wait till next May for an opportunity of passing. This arrangement is unobjectionable as applied to men going up for their final, but it is of very little value to men in classes A and B, and under certain conditions is positively injurious to all interests. The Christmas examination is an unmitigated evil when it compels a student to begin his subjects in the middle of a course, and to go up for examination immediately after being taught the first half of a subject. When a student has the misfortune to enter college at Christmas he finds every subject half finished, and he begins his tuition where he is unable to understand the major portion of his lectures. To the average student this is distinctly unfair, and very few of them ever attain any systematic and orderly knowledge of the subject.

A few of the best men, by excessive work through their first session and continuous reading during the summer, are able to cram up by October, and then they rejoin classes to hear lectures on the first half of the subject only. Such a man passes through his three sessions of study without once hearing a systematic course of lectures, unless he has the good fortune to be rejected at his first examination. Consult any syllabus of the schools, and it will be at once seen what a muddle this entry at Christmas means. In the useless science of Botany, he commences at once to study the natural orders, and only hears anything of the structure of plants when he returns to college in October. In the useful science of Chemistry, he plunges at once into the mysteries of isomerism and metamerism, but hears nothing of inorganic chemistry till next session. In Pathology he commences by listening to lectures on special pathology before he has heard a word on general pathology. This is not right, and if the schools persist in admitting men in the middle of a course, the Royal College of Veterinary Surgeons should confine their Christmas examination entirely to men who have boen rejected for their final.

THE FELLOWSHIP.

Let us be clear on this subject. We desire to wound no feelings, and we have no Examiner or Fellow in view when we say the examination is unsatisfactory. The Fellowship is supposed to be a higher degree than Membership. Now we ask how many successful candidates for Fellowship could pass the Membership examination; or how many of the successful candidates for Membership would fail to pass the Fellowship test? The Membership examination is a very fair test of a man's fitness to enter the the profession, but the Fellowship is not a test that brings out the higher qualities and acquirements of a man who has been in practice for some years, Our higher degree ought to show that a member has retained, not the detailed, but the essential knowledge gained in his studentship; and has added to it some special knowledge gained in his practice. The present test does not meet this requirement and should be altered accordingly.

CASES AND ARTICLES

LACTATION IN NON-PREGNANT BITCH.

The subject was a three-year old St. Bernard bitch, which had been served four times, at different times of œstrum, on the last occasion she was served twice on successive days; but never became pregnant. Eight weeks and three days after the last service, I saw her and found the mammæ full of milk, but otherwise, nothing to support the owner's idea that the bitch was pregnant. The bitch became very restless, and the mammæ more engorged with milk, so it was thought best to try her with some puppies, this caused her intense satisfaction, as shown by the manner in which she fondled the youngsters. The puppies were five in number, and were suckled by the bitch for five weeks, they being taken from her quite fat. I might add that the puppies were Collies.

GARSTANG

NATIONAL REGISTRATION OF FARRIERS OR SHOEING SMITHS.

The report of the Registration Committee of the National Registration of Farriers or Shoeing Smiths has just been issued. To those who may be disposed to respond to its appeal for funds I would suggest a careful consideration of the methods pursued in carrying out the working details of the scheme.

The nature of the work of a horse-shoer renders it imperative that a practical test be set, if it is desired to separate efficient from inefficient workmen. This is so obvious to all who understand the trade, that it is difficult to realise any serious attempt being made with other means. It has remained for the Farriers Company to countenance another method— that of passing men as good average horse-shoers, after a short verbal examination, without the candidate having made a shoe or shod a horse. Of course such a test is of little value, but something worse remains. The body grant an imposing certificate, with seals, armorial devices, etc. and embellished with two figures, presumably supposed to represent the fireman and doorman of the trade, as one grasps a goldbeater's mallet and the other holds a carpenter's hammer.

This certificate states:

"Mr.———was this day entered upon the Register.....as duly qualified to work as a Registered Shoeing Smith,.....examined and passed.

Mr.——— Examiner."

It may be asked how has the recipient of this document demonstrated his ability *to work*. Why the certificate is so worded is not clear, for it tends to mislead the public and those specially interested in the horse-shoeing trade.

Passing to the consideration of the report, the following paragraph is worth quoting in full. In fact it is the most important one in the report.

"After mature consideration by the Examination Committee, comprising all the Veterinary Surgeons on the Registration Committee, it was considered impossible to carry out a manual examination at so many centres, and it was decided to examine them (?) orally, and by means of specimens, models, etc., on the principles and practice of shoeing. There was all the more reason for adopting this course as the men to be examined were already, and had been previously, earning their livelihood as practical shoers, and were therefore competent, so far as mere handicraft knowledge was concerned. What was sought to especially ascertain in these examinations was whether they were sufficiently acquainted with the principles of shoeing, based on the structure and functions of the horse's foot, and whether they had the intelligence to rightly apply these principles to every-day practice, so as to avoid those serious evils which had hitherto so largely and so generally attended the carrying out of this art, and have proved a source of so much loss and inconvenience to horse-owners, as well as suffering to horses. The examiners were extremely pleased to find that a very great proportion of those who presented themselves for examination were skilled and intelligent men, who much appreciated this test of ability being applied to them, and gratefully acknowledged the benefit they had already derived from preparing for the examination. No one was passed for registration who did not recognise the existence of the evils just mentioned and how to avoid them, and the Committee feel confident that great good, not only to horses and horse owners, but to the shoers themselves, will accrue from these examinations and registration, thus proving that the good work originated by the Registration Scheme has been successful in attaining the object for which it was instituted, namely, the raising of the standard of Horse-Shoeing, and assisting the Shoeing-Smith to obtain that knowledge of the art which he requires in order to carry on his business with success."

Without noting the grammatical errors, the sense of this paragraph is worth a very careful reading. It commences by admitting the impossibility of carrying out a manual examination. But such tests have been adopted and practised by Agricultural Societies ever since shoeing competitions were instituted as a feature of Agricultural Shows. Is there not something ludicrous in the statement that they propose to examine *orally* on the *practice* of shoeing. The next statement is open to question— that the man had earned his livelihood by the trade, and was therefore competent so far as the *mere handicraft*. Is it impossible for an indifferent worker to earn a living? What more is there to improve than this handicraft to which the some- what contemptuous adjective, mere, is applied? Is there any wish to institute a degree in theoretical horse shoeing, or is the improvement of the workman aimed at? The paragraph further states "a

great number were found skilled—in what?—answering questions or shoeing horses? The concluding sentence is devoted to laudatory remarks as to the efficiency of the examiners, the gratitude of the examined, and some illogical deductions—perhaps pardonable when it is considered from whom the report emanates.

It is the general opinion of practical men that this theoretical examination can do little good and may do great harm.

I will conclude by saying that to those with the means and the will to improve the trade, no better course could be followed than to subscribe to the several Agricultural Societies. who have special experience of organising practical tests, and who no doubt would be pleased to keep the credit of what they have done for the trade in the past, and probably also to devote even more attention to the examination of shoeing-smiths in the future if they had the funds to do so.

Better a hundred good men whose registration is a guarantee of their "mere craftsmanship" than a thousand whose paper diploma is open to such question as that granted by the Worshipful Company of Farriers.

H. G. Rogers.

TRANSLATIONS.

MALIGNANT SARCOMA IN A DOG.

By Prof. P. J. Cadiot, of the Alfort School.

Communicated to the Société Centrale de Médecine Vétérinaire.

Trans. by Thos. J. Watt Dollar, M.R.C.V.S.

M. Cadiot.—Gentlemen, I wish to lay before you some anatomical specimens from an Irish greyhound, four years old, which died of generalised malignant tumour, and to give you the history of the case in a summary manner.

Towards the end of last July, I was called in consultation to see this dog which had been out with its master in the Bois de Boulogne and had returned home lame in the off-hind leg, but without having met with any accident which could account for its condition.

I examined the affected limb without detecting any serious lesion. Pressure of the various parts of the leg produced no indications of pain, although extensive abductory movements seem to cause slight suffering. There was no deformity, abnormal mobility or crepitation. The history of the subject was good. He had never been seriously ill, although lame occasionally in various parts, and this was considered as due to rheumatism. As treatment, I advised the daily administration of a medium dose of salicylate of soda, and applications of camphorated alcohol to the loins and hip. The absence of any acute pain, of crepitation, of deformity of the region; that the animal could put its weight on the limb, the normal mobility of the member in every sense, indicated that there was neither fracture nor luxation.

This condition remained the same for a week. At my second visit, on the 10th August, the animal was no better, in fact he could hardly use the limb as a means of support. A minute examination of the hip and thigh, where the cause of lameness undoubtedly existed, still gave no indication of any lesion.

During the second half of August, the affection made considerable progress. The dog remained lying down almost continually; its sufferings caused groaning, whilst walking no use was made of the affected limb. When I saw it again, at the commencement of September, I was immediately struck by a tumefaction developed on a level with the coxo-femoral articulation. The gravity of the case could no longer be doubted. At my request the owner consented to send the patient to the school.

I again examined the interested region. By the rectum, I could recognise no deformity of the floor of the pelvis; but by slightly displacing the limb, I noticed a dull crepitation and I concluded there was a fracture of the external border of the cotyloid cavity or of the neck of the femur, the cause of which and the first symptoms remained most obscure. Professor Trasbot formed the same diagnosis.

The treatment adopted consisted of the application of pitch and turpentine bandages which were dressed with aloes morning and evening to prevent the animal tearing them. On account of the position of the seat of the accident a plaster apparatus could not be used.

Owing to the very calm nature of the patient the dressing was retained for three weeks, and by replacing some of the bandages which were occasionally torn off, the limb was kept as much as possible in a state of immobility.

When the pitch bandages were removed, the coxo-femoral region appeared enormous. There was a hard neoformation nearly as large as the fist, on a level with the joint, and the patient was still unable to use the limb.

For a moment I thought that the want of functional power was due to the incarceration, in what seemed to be an abnormally voluminous "callus," of one of the nerve branches passing in the proximity of the coxo-femoral articulation. Attacks of pain, which were sometimes repeated on the same day and which were calmed by injection of hydrochlorate of morphine, seemed to strengthen this opinion. Alarming nervous symptoms were noticed on the 4th and 8th of October. During the walk which the dog was in the habit of taking morning and evening, he was suddenly taken with palsy of all four limbs without any apparent premonitory indications; he endeavoured to reach the carpet on which he had the habit of lying down, and then commenced howling. These phenomena passed away in a few minutes.

Fearing nervous complication, I decided to operate on the callus with the actual cautery. With the assent of the owner I "needle-fired" the coxo-femoral region, the parts being anesthetised by a solution of cocaine. The operation, made on the 17th October, was very well supported; and there seemed nothing unusual in the after affects. Morning

and evening the cauterized region was smeared with vaseline to which a small quantity of cocaine was added, then covered with a layer of wadding which was kept in place by a bandage fitted to the posterior part of the body.

Eight days later, when the dog seemed sensibly better, other symptoms supervened. The animal showed symptoms of acute pain, he had violent thirst and ate but very little, the great functions were somewhat accelerated, the temperature had risen to 40 C. He was again relieved by morphine. The violent beatings of the heart having attracted my attention. I auscultated this organ and the lungs; I noticed crepitating rales in the two pulmonary lobes, nothing at the heart; percussion indicated dulness on the right side, towards the inferior part of the thorax.

The 26th October I noticed on the left side of the withers, between the upper border of the shoulder and the vertebral column, a tumour with the following characteristics: but slightly prominent, ovoid, its large axis parallel to the middle line, indolent, intimately attached to the deep parts, not adherent to the skin; by palpation two lobes could be recognised, the larger being the more anteriorly situated. A capillary puncture asceptically made only gave a few drops of blood. The following days, this tumour increased in size, although retaining its other primitive characters. The fever disappeared. The temperature returned to 38°C.

Several superficial lymphatic glands being slightly hypertrophied, I counted the blood elements. This is the result: (In a cubic millimetre of blood) red corpuscles, 4,512,500; colourless corpuscles, 61,572; proportion 73·1. There was therefore a very marked leucocytosis. This time the diagnosis was determined. My patient was evidently affected with a malignant neoplasy which tended to become generalised.

From the moment when the tumour at the withers appeared the pains had diminished, but the animal nevertheless became gradually weaker. He was sustained by the administration of spoonfuls of warm milk. During the last days this, even when mixed with water, was not retained.

The temperature gradually fell to 37, 36, 35, 34°C. On the evening of the 6th November the thermometer marked 33·8C. Death took place the following morning.

Autopsy. The abdominal cavity contained about a demi-décilitre* of bloody fluid; by removing the intestines, several small whitish, hard tumours, hardly raised above the surface were observed on the parietal layer of the peritoneum; another recent, blackish, fluctuating tumour existed at the origin of the epiploon, near the pancreas; it surrounded the intestines at their point of departure from the stomach; the surface of sections made in its thickness had an areolar aspect; its very soft, blackish, bloody tissue calls to mind that of the hœmatoma. The two kidneys presented about ten small, whitish, hard, slightly prominent nodules on their surface; sections made in the cortical and medullary substance showed that these were invaded by neoformations of the same nature. The sub-lumbar lymphatic glands of the same side as the affected limb were hypertrophied; they formed a small tumour of the size of an almond, softened in the centre. The liver, the spleen, the genito-urinary organs were free.

On opening the thoracic cavity, the lung appeared stuffed with neoplasms, more or less prominent, and whose size varied from that of a pin's head to that of a filbert; for the most part they were of the size of a millet seed; according to their age and dimensions, they were whitish, greyish, dark or marbled in colour. About 2200 were counted on the surface of this organ. In the deep parts, the lesions were more rare. The second portion of the right lobe was especially seriously altered; it was transformed into an irregular mass and a section had the same aspect as that seen in the tumour of the epiploon.

Several other neo-formations were found in the thorax; the largest of the size of a walnut was situated on the floor of this cavity, in the anterior mediastinum. The bi-lobed tumour of the withers noticed during life was formed of two neoplasms with a reddish, hæmorrhagic tissue developed in the thickness of the ilio-spinal.

The encephalus and the spinal cord showed no alterations.

The dissection of the coxo-femoral region enabled the connections and characters of the primitive lesion to be noted in a very precise manner.

The skin, the connective tissue and the superficial muscles, forming a layer of about a centimetre in thickness, were exempt; the marks of the cautery alone were seen. The principal nerve branches were simply displaced. Several deep muscles were destroyed by the neoplasm. This, of an irregularly ovoid form, with an embossed surface, placed in a vertical position with its small extremity downwards, was developed round the upper half of the femur; it measured 15 centimetres in length, and 25 centimetres in circumference at its greatest transverse diameter; its upper part surpassed the ischium, but it was only attached to that bone above and outside of the cotyloid cavity. Once cut through at this point it was easily removed from the coxal, to reach the capsular ligament of the coxo-femoral and perform disarticulation.

The joint was invaded by the tumour; the head of the femur was softened, friable, fissured. The synovial membrane, injected, thickened, infiltrated, was covered with a semi-fluid, greyish, non-purulent substance, formed by softened neoplastic tissue. The walls of the cotyloid cavity were eroded, its cartilaginous layer had disappeared. The three pelvic bones, even in the portion contiguous to this cavity, had preserved their normal solidity and were but little changed; a few osteophytic plates, of two or three milimetres in thickness, alone were seen. The section of the tumour and the femur, made in the axis of this bone, showed the following lesions: The portion of the femur corresponding to the neck and the upper part of the body was entirely destroyed for two centimetres. The head of the bone,

* Décilitre—One-tenth of a litre—0·1760773 pint.

scooped out, corroded internally to its detached cortical layer (intra-capsulary fracture) was connected with the diaphysis by the tissue of the neoplasm, which, at this point, had a rather strong consistency, and allowed the inferior extremity to make but relatively very limited abnormal movements. The alterations of the diaphysis were much less marked, the wall had preserved its normal thickness throughout its length. The medullary canal was obstructed, above, by an apparently fibrous tissue, continuous with that which replaced the osseous segment that had disappeared; below this point, the medulla was reddish, ecchymosed; in the lower half of the bone it was normal. On a very large part of the section, the tumour had a fibrous aspect and was of a greyish colour; in places it was less firm and of a reddish tint; again elsewhere, it was softer, reddish, hæmorrhagic.

The microscopical study of fragments of the tumour of the bone and of the pulmonary neoplasies has proved the unity of these lesions. It is a question of encephaloid sarcoma which has become generalised.

I thought it my duty to relate this observation, in the first place because we ought never to neglect any opportunity of increasing, by well-studied facts, the few documents we possess on malignant tumours, but especially because it is interesting from many points of view.

From a pathological aspect it shows that, in the dog as in man, sarcoma of the bones may rapidly become generalised and cause death in a very brief period. To the human species Dr. Schwartz has shown, by the facts mentioned in his "Thèse sur les Ostéosarcomes des Membres," that the process takes place in this way much more frequently than was formerly believed. In my patient it is infinitely probable that the primitive tumour was that of the femur. At the moment when the subject became lame he manifested no symptom of the existence of any visceral affection. He was in very good condition and had an excellent appetite, which he retained until the beginning of October. He never coughed, neither did he suffer from epistaxis, and it was only in the last weeks that pulmonary crepitation and thoracic dulness were noticed.

As regards the pathogeny of the origin even of the trouble it accommodates itself to several hypotheses. This dog was arthritic; it had chronic eczema of the dorso-lumbar region. Was there rheumatismal ostitis causing a dimunition of the resistance of the affected bone, then fracture, awakening of the latent diathesis, development of a primitive neoplasm at the traumatic centre, lastly visceral metastases; or simply an accidental trauma as the first act in this morbid series; or, lastly, a neoplasm primitively developed in the bone under the influence of an undetermined exciting cause acting upon a predisposed organism, consecutive fracture and generalisation?—It is this last opinion that I prefer. I believe that the neoplasm of the femur was the propathic lesion.

By supposing that it was possible to recognise the nature of the affection at the outset, the animal would all the same have been inevitably lost—disarticulation of the hip being up till the present time reserved for human beings. The "needle firing," doubtless precipitated generalisation, it probably revived the growth which gave rise to numerous hæmorrhagic tumours of the lungs and those of the withers.

From a clinical point of view, my observation shows that in animals the diagnosis of certain external affections may remain uncertain for a long time, at least extremely difficult,—in order not to say impossible.

I take this opportunity of showing you the lungs of two other dogs which died of carcinomatous infection.

In four years I have collected a dozen analagous cases to those of which I am going to speak, but these specimens are the finest I have met with.

Here is a lung in which more than 1500 tumours are developed in its superficial layers, they are of variable dimensions, especially remarkable for their regularity, for their circular contour, for their hemispheric prominence, and offering on microscopical examination, all the characters of encephaloid carcinoma. This carcinomatosis originated in a neoplasm developed on the œsophagus, towards the lower third of the neck. The secondary lesions were limited to the lung. The animal was four years old. The duration of the disease, counting from the time when the first symptoms were noticed, was two months.

On this other lung, about 450 tumours may be counted, histologically similar to the preceding. It is from a bitch which was 7 years old. The duration of the disease was rather more than four months. The autopsy revealed, besides these lesions, a voluminous neoplasm, developed in the terminal portion of the small intestines, and some small secondary hepatic tumours. I cannot examine such alterations without being invincibly led to look upon them as the result of an identical process to that of chronic virulent infections to tuberculiform lesions.—*Bulletin de la Société Centrale Médecine Vétérinaire, Nov.* 24, 1892.

MALLEIN PREPARATIONS.

Trans. by Jno. A. W. Dollar, M.R.C.V.S.

The use of mallein has taken so wide a range, and investigators have been so active, especially abroad, that it is impossible to refer to every experiment. Nor is it our province to discover in what way mallein produces its results; suffice it to chronicle the evidence so far as it tells either "for" or "against."

At the present time very many persons have interested themselves in the preparation of different malleins, and it is therefore to be expected that as the active principle of mallein has not yet been isolated nor subjected to chemical analysis, each variety differs according to its method of preparation. The great desideratum, however, is not so much to produce a very active material as one which will retain its properties for a long time unchanged.

As a guide to the malleins hitherto discovered, the following slight sketch may be useful.

The description of Preuss's mallein which up to the present has been most used in Germany, is given by Preusse himself, in No. 29 of the 1891 edition of *The Berliner Thierärztliche Wochenschrift.*

Quite recently Foth has published a method which is remarkable, both for its precision and for the keeping qualities of the material produced. This is described in No. 45 *The Berl. Thierärz. Wochenschrift*, [No. 228 of *The Veterinary Record*, (trans.)] Before this Gutzeit (*Zeitschrift für Veterinär Kunde* 1892 No. 4) had used the following formula. Cultures on horse flesh bouillon (with the addition of peptone and common salt) were kept at a temperature of 37 C for 14 days, then examined as to purity, of these 1400 grammes in small quantities were evaporated over a water bath, and the resulting fluid filtered. This quantity gave about 350 ccm of a wine-red, clear, neutral fluid with which Gutzeit experimented.

Johne has (*Sächs. Veterinar bericht für* 1891) prepared a mallein after the instructions of Hueppe as follows: A peptone bouillon (latterly with the addition of 4½/100 of glycerine) was placed in small flasks of 10 ccm. capacity, and inoculated with a small quantity of a very virulent culture (preferably that from agar-agar) then kept for 14 days at a temperature of 37 C. The resulting material was filtered through three or four thicknesses of filter paper and the clear dark yellowish wine-like resulting fluid sterilised at steam heat for several hours.

Lastly, Dr. Roux, of the Pasteur Institute, has prepared a mallein after Nocard's instructions, with which many experiments have been made in France, Belgium, Italy, and Greece. The following is from a description of Strebel's in the Schweitzer Archives: The virulence of the glanders bacilli is first so increased by frequent passage through animals that rabbits and white mice are killed by them in thirty hours. Flasks containing Nocard's tubercle culture fluid (glycerine-peptone-broth) are then inoculated and kept at 35 C for 4 weeks. The cultures are next sterilised in a metal cylinder at 110 C., filtered through paper, and evaporated in vacuo over sulphuric acid to one-tenth of their previous volume. In this way a syrup-like, dark brown, peculiarly smelling fluid, containing 50 per cent of glycerine, is obtained—crude mallein. This keeps for several months without losing its properties, a great advantage. For use, 1 ccm. is diluted with 9 ccm. of a 5°/00 carbolic solution, and of this material one injects 2·5 ccm.=0·25 of crude mallein.

The effects of this mallein are more intense than those of German mallein. The material is sent out in the form of crude mallein, and also ready for injection. The latter keeps for 14 days if excluded from light. In *Repertoire de police sanitaire vétérinaire, et d'hygiene publique*, June. 1892, directions are given for the use of this mallein.

As for the practical testing of mallein, experiments nave lately been made in Germany by Johne, Schleg, Uhlich, Walther (*Jahresbericht über das Veterinär Wesen in Sachsen für*, 1891) Höflich, (*Fröhner-Kitt Monatshefte*) Inunfinger, *W.F.T.*

Of all these experimenters, Walther alone has had notably unfavourable results. He inoculated thirty horses with from 0·3 to 0·5 grammes of mallein, in 18 the temperature rose over 1 degree. Of these, five were slaughtered and found healthy. The other trials included altogether 25 horses, of which nine reacted. Of the eight slaughtered animals all were glandered.—*Berliner Thierarztliche Wochenschrift*, 8th Dec. 1892.

[Very exhaustive experiments have been made with Roux's mallein in France, where about 435 horses were inoculated and also in Belgium, Holland, and Italy. These are given at some length, but as a summary of the more notable has appeared in No. 229 of *The Veterinary Record*, it it not necessary here to recapitulate them.—TRANS.]

VETERINARY SOCIETIES.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

The monthly meeting of the society was held on Thursday night the 1st inst., at the Royal College of Veterinary Surgeons, 10 Red Lion Square, Holborn, Mr. W. Roots, the President, occupying the chair. The other Fellows present were:—Capt. Butler, Messrs. A. Broad, A. L. Butters, Col. F. Duck, Messrs. Edgar, A. E. Gostling, T. C. Garry, C. Humphreys, W. Hunting, R. C. Irving, F. C. Mahon, P. McOnie, Capt. Matthews, Messrs. A. Prudames, W. Roots, J. Rowe, H. G. Rogers, Capt. Raymond, Messrs. S. Slocock, F. Samson, S. Villar, F. W. Wragg. The visitors were Capt. M. H. Hayes, and Mr. W. H. Williamson.

MINUTES.

On the motion of Mr. J. ROWE, seconded by Mr. F. C. MAHON, the minutes of the preceding meeting were taken as read and were signed by the chairman as being correct.

CORRESPONDENCE.

The Honorary Secretary stated that he had received letters from Professor Pritchard, Mr. J. S. Hurndall, and Mr. W. H. Withers, expressing regret at their inability to attend. He also read a communication from Mr. J. S. Hurndall, as Secretary of the Royal Counties Veterinary Medical Association acknowledging with appreciative thanks the kind consideration of the Central Society in sending to the former a circular letter with respect to the higher education scheme which had already been practically dealt with.

PROPOSED BRITISH INSTITUTE OF PREVENTIVE MEDICINE

The Secretary said he had received a letter from Sir Joseph Lister, relating to the projected British Institute of Preventive Medicine which was laid before the previous meeting, but as that was simply a dinner meeting, it was thought better to defer the consideration of the letter until the present gathering.

Accompanying the letter was a long type-written description of the aims and objects of the proposed Institute.

Mr. EDGAR:—I should like to ask whether the effect of that communication is to give us information as to the existence of the Institute, and whether its object is to solicit combined help?

Captain F. RAYMOND:—Do they ask for money?

The SECRETARY:—The letter is an appeal for funds but the Institute is not in existence yet.

Capt. RAYMOND having found that the only gentleman in the veterinary profession on the Council of the proposed Institute was Dr. Fleming, expressed his opinion that, in comparison with the medical profession he did not think the veterinary profession was adequately represented on the Council. He did not, for one moment, mean to say that he did not consider Dr. Fleming was one of the best men they could have on the Council. On the contrary, he thought that Dr. Fleming was a very good man to have. At the same time he thought the veterinary profession should be represented by at least two other members, and those members should be gentlemen who had been connected with research. They would not have to reflect long before they could call to mind several gentlemen who would be well able to represent them in connection with this Institute. He suggested, for instance, Prof. Brown, Prof. McFadyean, Professors F. Vincent, Edgar, Sylvester, and Dr. Griffiths Evans. There were plenty of men in the veterinary profession engaged in original research who could perfectly well represent them on the Council of the proposed Institute. He suggested that the Secretary should write to Dr. Ruffer, the Secretary of the Institute, that if it was to receive the full support of the profession they should have, at least, two more veterinary surgeons on the Council. That was the first thing. Then there was another thing which had occurred to him. The enclosure with Sir Joseph Lister's letter set forth that the Institute was to "afford opportunities and accommodation to practitioners to investigate disease." He (Capt. Raymond) would like to know how this would work when the accommodation provided was pretty nearly all utilized. Then, supposing a number of veterinary surgeons on the one hand and doctors on the other, applied for the remaining accommodation, how and to whom would it be allotted? Would this be decided by ballot or would the selection be made by the Council, or would the space be given entirely to the medical practitioners? There was a third point as to which information was desirable. If they, as a profession, supported this Institute they would, of course, like to derive some benefit from the investigations that were conducted there: they would like to know what was discovered, and what was not discovered as well. They would really like to be able to follow the investigations. The ordinary course of the medical practitioner in these institutions was, that he carried on an investigation, and when he had completed his work he published the record in any medical or scientific journal which he preferred. Well, they all knew that there were a number of scientific journals, and, in the case of this Institute one gentlemen might publish his paper in one journal and another in another, and hence information of a discovery of importance to the veterinary profession might not reach that profession. What was wanted was to know whether an account of the proceedings of Members of the Institute would be sent to the veterinary journals. The three points he had indicated should, he thought, be considered before they voted money towards the Institute.

Prof. EDGAR quite agreed with Capt. Raymond that they were entitled to know in what way the veterinary profession would be benefitted by the Institute. He (Prof. Edgar) thought that the transactions of the Institute would be printed in a periodical issued by it. Some years must elapse before they could derive any benefit from the Institute whose buildings were not yet erected. They required more definite and fuller information before voting money. He did not quite understand whether they were asked to support the Institute or give towards erecting the Institute building.

The CHAIRMAN:—Both.

Mr. EDGAR:—I think we should have at least two more veterinary surgeons on the Council. I quite agree with Captain Raymond in that.

Mr. W. HUNTING said he did not quite understand what it was that they required. It seemed to him that this was a scientific institute, and that the results of the work done there would go into a general fund whence all scientific men could take what they needed. Valuable scientific work might sometimes be described in a comparatively unknown journal but he did not think that often occurred. It was not often that a bit of good scientific work remained buried in any one journal. It was generally quoted in all the scientific papers. He was perfectly certain that any work done at this Institute would be fairly open to be available for every scientific man. If they regarded this Institute from the point of view of the advancement of science they ought to subscribe to it. It would do work which they could not do otherwise, and they, as a profession, would get a share of the advantage. There was another aspect of the question which was worth bearing in mind and that was that professions, like individuals, must be kept before the public in some way if they intended doing any good. If the veterinary profession could tack itself on to the leading men of the medical profession it might get helped upwards. From a social and professional point of view it was possible that by attaching themselves to this Institute they might do themselves some good as they did by their association with the Hygienic Congress. A number of people discovered the veterinary profession for the first time after the Hygienic Congress; and since then scores of people had appreciated the veterinary profession more highly than they did before. Associations with this Institute would bring them into better society than that which they generally entered, and that would be an advantage to them. Professionally, socially, and scientifically he could see no earthly reason why they should not join the Institute. On the contrary he realised that there were advantages to be obtained in all three directions, and hence he held a strong opinion that they ought to subscribe.

Captain RAYMOND:—I never said that we should not subscribe.

Mr. HUNTING:—I was not replying to you, Captain Raymond, because I did not hear half of what you said. I was not in the room during the whole of your speech.

The SECRETARY:—I quite see now that Mr. Hunting has put the matter so clearly that there are many advantages we may obtain from subscribing to this Institute. If we were in a position to contribute a thousand guineas—I see there are five or six contributions of that amount, some of £2000—we might then endeavour to force ourselves into the position that we consider we should occupy; but it is just possible our subscriptions may not be so large. I am not sure whether the Council of the Institute would not require some considerable monetary guarantee before conceding to us the representation we desire on the governing body. I think we had much better make some small subscription and then remain content to receive what benefits we can get from the Institute.

Mr. EDGAR:—No.

Mr. SAMSON:—We ought to be better represented.

Mr. A. PRUDAMES said they lost sight of one thing in discussing this matter, and that was that money ought not to be the only consideration to rule in an affair of this description. Money no doubt might be an important factor in the matter, but when the veterinary profession had such talent at command as Captain Raymond had indicated, he thought it was only right that some of it should be utilised in connection with this Institute. It seemed to him that if they did not push their profession a little forward no one would do it for them.

Captain RAYMOND:—I move "That a courteous letter be sent to Dr. Ruffer asking (1) if two more members of the veterinary profession can be added to the Council of the British Institute of Preventive Medicine in view of the

fact that the work of the Institute will be largely connected with the veterinary profession ; and (2) if facilities will be afforded for promulgating to our profession information of work done." I think this will not hurt the feelings of the Council of this Institute and, at any rate, it may bring us forward in our proper position.

Mr. EDGAR :—I have much pleasure in seconding the motion.

The motion was adopted by 8 to 3.

Capt. RAYMOND :—I presume that resolution will not interfere with any vote of money.

The CHAIRMAN :—I think the monetary matter should lie in abeyance until we get a reply from Dr. Ruffer.

NEW FELLOW.

Prof. LONGHURST, of Aldershot, having been balloted for, was declared to be unanimously elected a Fellow of the Society.

The CHAIRMAN said he had received papers nominating Capt. J. B. Savage and G. C. O. Fowler, Esq., of the Army Veterinary Department.

POST-MORTEM SPECIMEN.

Mr. EDGAR produced a post-mortem specimen which, he said, he thought would be of interest to the Fellows. On the preceding Saturday he was requested to see a little dog—a cross-bred Pomeranian—from twelve to fifteen years of age which had been wasting some considerable time. It had been constantly coughing, exactly like a dog suffering from asthma, and within the last two or three days it vomited on two or three occasions. On examining the dog he was first struck with the pendulous condition of the abdomen, and he thought it was a case of abdominal dropsy. When he manipulated, however, he found that what appeared to be the liver was considerably enlarged, and he also felt a tumour. His opinion was that there was no asthma but that the breathing was due to the presence of tumour. When the dog was killed and he made an autopsy he found the tumour in connection with the liver which he placed on the table for inspection.

Mr. HUNTING :—Have you formed any conclusion as to the nature of the disease, Mr. Edgar?

Mr. EDGAR :—My opinion is that it is a cancerous tumour. I am going to send it to Dr. B. Sutton for him to examine it. It seemed a most interesting case inasmuch as the dog, suffering as it did from such extensive disease in connection with the liver, yet preserved to the last a good appetite. There was only one small patch of emphysema in the lungs, about the size of a threepenny-piece.

Mr. HUNTING :—Are they cystic tumours?

Mr. EDGAR :—All in connection with the liver. One thing I forgot to mention in the symptoms. When the dog walked along it suddenly fell down right on its stomach, and then it would have considerable difficulty in raising itself.

Subsequently, on the motion of Mr. ROWE, seconded by Mr. C. J. HUMPHREY, a vote of thanks was unanimously accorded to Mr. Edgar for having introduced so interesting a pathological specimen.

EQUINE LOCOMOTION,

A LECTURE, BY CAPT. HAYES, F.R.C.V.S.

Captain HAYES exhibited a number of photographs and drawings which, he explained, would appear in a book shortly to be published dealing with equine conformation—a study that had long engaged his attention.

In the course of his remarks he said that of course they knew that locomotion in the horse was effected by the action of levers. There were three forms of levers. In the first, they had the fulcrum between the power and the weight. They had a familiar instance of that when the horse kicked with the foot off the ground. In that case they had the power of the gastrocnemii muscles ; the weight was the weight of the leg's velocity. It was accumulated if they took the centre of the weight somewhere in the metatarsal bone and the fulcrum naturally would be the tibia. If they had a horse drawing a load and making an effort with the hind leg then they had a lever of the second order, the fulcrum being the ground on which the toe rested. The power was again the gastrocnemii muscles, and the muscles which extended the hock, and the weight was the tibia and its direction was that in which the weight was pushed. If, further, they wanted a lever of the third order they got it when a horse's flexors raised his foot to, say, scratch his abdomen. There the flexors of the hock were the power. The weight was again the weight of the leg below the hock, and the fulcrum again was the tibia. It was all the same whether a horse was walking, trotting, galloping, or cantering, whether he was ridden or whether he was in draught. In speaking to their clients and if they wished to express the subject in a popular manner they said that the propulsion of the limbs was caused by the straightening out of the limbs. If a swimmer were in a swimming bath and had to swim to the end of it, he would turn round, and would project himself forward by doubling the leg up, pressing it against the wall of the bath and straightening out the limb. In the limb here (as was shown in the action of the hock joint of the horse) the levers had play and the leg was straightened out. In fact the leg was placed between two bodies, one immovable as the sides of the bath, and the other moveable, namely, the body which was projected forward. He would speak first of the propulsion of man. In the case of a biped they had a much simpler and easier action than in the case of a quadruped. When the man stood in a position which the lecturer assumed he straightened the limb and brought his body forward, and when the centre of gravity of his body—when the perpendicular line—fell in front of his foot which formed the anterior edge of the base of support, he must bring the other foot forward to restore the equilibrium. They had this in the equine also. In the case of the horse, which moved on four legs, the projection of the hind quarters was a very simple matter. The trochanter major was the fulcrum and the gluteal muscles the moving power. By the contraction of the gluteus maximus they got the straightening of the hip joint. Then again by the contraction of the crural muscles they extended the stifle joint. The hock joint was also straightened, the fetlock joint by other groups of muscles. Hence they had in straightening the limb pushed the body forward. On the other hand what the fore limbs did in projection—in locomotion—was done in a great measure through the humerus. Not alone had the fore-limb to do its part in propulsion, but it played a very important part in raising the forehand, in fast paces. This was seen in the figures of a horse in canter (which was displayed.) Whether in a canter or gallop, whenever the body was raised from the ground, it was raised by the straightening of the fore-limb and particularly by the fetlock joint. Hence for galloping power they required horses with long pasterns. No short-pasterned horse had ever been gifted with great power of speed. They also wanted length of shoulder blade. The two joints that were particularly used in fast equine locomotion were the shoulder joint and the fetlock joint. He pointed out that in the trot they had a diagonal movement of the limbs, alternate diagonals, whereas in the amble there were the alternate lateral movements. There was a very subtle and important

distinction which, he believed, had not yet been put forward, and that was to define the exact difference between the canter and the gallop of the horse. Let them suppose a horse was leaving the point where his body was resting on one hind leg, they would find that in the canter he first balanced himself on, say, the near hind leg, then came the diagonal or the near fore and off hind, and next came the off fore and then there was a moment of suspension. During the canter, the hind leg of the diagonal support never came down on the ground before the fore leg; whereas in the gallop, when the near hind came down, it was followed by the off hind; then by the near fore; and finally by the off fore. Hence the stride of the canter was much shorter than that of the gallop. As regards speed, instability of equilibrium played a very important part—the more unstable the equilibrium of a body the faster was the speed. They found the same thing in a man skating fast or running a sprint. Perhaps the best man who ever put on a running shoe or went on a cinder path was Harry Hutchins. If any one of them had ever seen him run he would have noticed the way in which he bent forward making his equilibrium as unstable as possible. But a man who ran a long distance race, say of ten miles, ran more or less uprightly. So a horse cantering slowly would have his head upright, but in a fast gallop his head would be brought forward in order to increase the instability of equilebrium. According to the drawings, which he submitted for their inspection, they would find that the faster the pace, the more did the horse require to have the faculty of raising the forehand. In order to get the action level they must have animals with light forehands, light necks, light shoulders, everything light in front. On the other hand heavy horses, say common cart horses, had comparatively short limbs contrasted with the length of their bodies; and on account of the shortness of their limbs and especially the shortness of their pasterns, they were unable to straighten their limbs sufficiently to raise the fore hand like the race horse would do. They found that Percival, "Stonehenge," and other men who had investigated the question of the gallop, were very much confused indeed in pointing out the differences between the gallop and the leap. And yet the difference was very simple. In the gallop the suspension of the body occurred after the leading fore leg quitted the ground, while in the leap the period of suspension always followed the hind leg quitting the ground. (In confirmation of this Captain Hayes referred them to the photographs and drawings he produced.) He had often heard the following ventilated that a horse in jumping had to land on his hind legs, but the Fellows of that society, conversant as they were with anatomy, would not suppose anything so ridiculous. If they wanted speed in a horse, a condition precedent to this was the power of straightening the limb—the hind limb. When they talked about a horse having good shoulders—say for saddle work—and being light in front, they meant that they wanted him to be narrow between the cartilages. For speed it was also requisite that he should be narrow in the chest. The reason of that was that the distance at which the limbs were apart chiefly depended upon the size of the pectoral muscles. In the case of a strong and powerful cart horse they found he measured an immense amount across the chest or between the fore legs, but if he became sick and wasted the fore legs would almost touch each other and the chest would fall in. For speed they required lightness of forehand and power of loin muscles. It was sometimes said that loin muscles were propellers. They were nothing of the sort. In conclusion Capt. Hayes said he should be glad to answer any question that might be put to him.

Mr. W. HUNTING said it did not seem to him that the lecture was one which admitted of much discussion. They had, he was sure, tried to follow the lecturer as best they could and they were obliged to him for the information he had afforded them. He (Mr. Hunting) knew no more difficult subject for an audience to understand or a lecturer to make clear to his hearers than that which Captain Hayes had dealt with. He (Mr. Hunting) simply rose to elicit a little information, because one remark of the lecturer's seemed to him opposed to all he had hitherto believed. Capt. Hayes said that speed, so far as the hind leg was concerned, could only be attained by a condition of leg which allowed considerable opening of the angles. Now, if the power of straightening the hind leg was the great requisite for speed, the greater the angles the greater the power; in other words, a horse that had not a straight hind leg but the reverse ought to be the horse for galloping purposes. His (Mr. Hunting's) experience, however, was totally the contrary, and every galloping horse had a straight hind leg. The American trotting horse—probably the best for trotting—had a great angle of the hock. He was inclined to believe that nearly all English thoroughbreds had straight hind legs, and that the first requisite was strength of muscles high up, and that the essential movement of the hind leg took place from the hip and not from the hock. In other words, the trotting pace was essentially a pace which required great hock action, and that the gallop was a pace in which the hock played a comparatively small part compared with movement of hip. Horses with spavined hocks galloped well and they did so because the hock was not much use in galloping, whereas the hip was. Another point, the lecturer suggested that when a horse was narrow in front of the saddle he was a well-made horse. Now he (Mr. Hunting) had always been taught the opposite, and that, at any rate in a young horse, they should have a good thickness through the shoulder, otherwise when he grew up he was apt to be thin in front, weak and wasty. Hence he liked a horse under four years old always to be a little thick in front of the shoulder—not at the point of the shoulder but through the scapulæ. Mr. Hunting subsequently remarked that he had made a mistake in thinking that the lecturer considered that a straight hind leg was not favourable to speed.

Capt. HAYES said that writers in their generalisations had been too prone to set up a standard horse, forgetting that there were horses and horses. When they came to discuss the subject of conformation and equine locomotion they had to divide horses into horses of speed and horses of strength. That was the broad definition. Then they took the narrow classes and said that they were combined in various proportions of horses of speed and of speed and strength. Next they had regard to the teachings of physiology and comparative anatomy, from which they learned that the size of the muscles—the total character of the muscles—were entirely different when they were muscles of strength to what they were in speed. After adducing instances of this in bird life, and remarking that the eagle and the albatross had a very short sternum but a very big keel, Capt. Hayes pointed out from photographs, the extraordinary disproportion between the legs of the cart horse and the race horse. The race horse required long thin muscles. They should be as long and as thin as possible consistently with bearing the amount of weight put on the animal. Physiology taught them that the thin muscle could be stimulated much faster than the thick muscle. A man who habitually lifted heavy weights and thus developed his muscles largely, lost alertness in boxing with gloves, for instance, because he was unable to stimulate his thick muscles quick enough. In continuing the lecturer remarked that the reason why a cart horse had a short neck, and the reason why a race horse had a long neck was that the former had short legs and the

latter long legs. What was the explanation of this? It was that the muscles of the neck were the muscles of locomotion; they were not mere functional muscles, moving the ribs and causing respiration, but were actually true muscles of locomotion. If a horse had thick muscles between the scapulæ and the body he would undoubtedly fail in speed. Hence if they wanted the highest development in speed they required the horse to be narrow between the shoulders and not broad; and it was requisite also that he should have the power of *straightening* his hock, they all knew that a horse could *flex* it—a horse could scratch his ears with his foot. The speed in propulsion depended upon the difference of length in the limb when it was bent and when it was straightened out. They never knew a great race horse but what he had powerful gaskins, by which he meant the measurement of the horse above the hock—in the tibial region. If a horse had a short os calcis he would have a poor gaskin. If they took the idea of the stroke of a horse in his hind leg they would find it very similar to a man putting a weight or throwing a cricket ball: the first part of the action was a bit slow, but the final jerk sent the thing far; and that he believed, was in the action of the hock. If they examined how a limb worked they found that the gluteal muscles were the chief ones that started the weight; and the final kick off in the gallop or leap depended upon the straightening of the hock.

Mr. ROWE said he thought that the lecturer had made a slight error in naming his lecture, because conformation had entered so much into his description of locomotion as to make it an inseparable portion of it. He (Mr. Rowe) expressed a belief that the origin of the subject which Captain Hayes had brought before them was the criticism to which the position of a horse in a picture painted by Mrs. Butler (who was then Miss Thompson) was subjected. It was contended that the posture depicted was an unnatural one but observation proved this not to be the case. Mr. Rowe added that he was not aware previously that the length of the pastern had so much to do with the pace of a horse.

Captain HAYES, in reply, adduced his experience of a vast number of horses which he had observed, and had photographed in proof of his theories.

Captain RAYMOND, in moving a vote of thanks to Capt. Hayes for his interesting lecture, said as to the result of the lecture upon the education of veterinary surgeons of the future he was hardly able to form an opinion, but this he could say, if the student of the future was to go very deeply into the subject it would be necessary that he should have another session for his studies.

Mr. SAMSON seconded the motion which was carried unanimously.

Captain HAYES said he should like to see the subject with which he had dealt forming part of the veterinary curriculum. He regretted to say that although the question of the soundness and age of a horse was in the province of veterinary surgeons and was, of course, intimately connected with the subject of equine locomotion, the fact of a man holding his diploma either as a Fellow or a Member of the Royal College of Veterinary Surgeons was no guarantee that he possessed any special knowledge of conformation.

The proceedings then terminated.

VET.-MAJOR PERRINS, of the Q.O.W. Hussars, has been selected out of eight leading provincial vety. surgeons to act with Prof. Axe, of the Ryl. Vet. Coll., as V.S. at the Shire Horse Show to be held at Islington on Feb. 28th. The Royal Commission on Horse Breeding will join the Hunters' Improvement and Hackney Horse Societies in holding the show, at which 30 Queen's premiums will be awarded.

SCOTTISH METROPOLITAN VETERINARY MEDICAL SOCIETY.

A meeting of the Society was held at the London Hotel, 4 Andrew Square, Edinburgh, on Wednesday afternoon, 23rd November, 1892. The President, Mr. James Clark, F.R.C.V.S., occupied the chair, and the following gentlemen were present: Principal Williams, Professor Hunter, Professor de Jong, Mr. Peter Moir (hon. secretary), Messrs. Rutherford, Edinburgh; Burnett, Maybole; Cameron, Berwick-on-Tweed; Boyd, Melrose; Storie, East Linton; Hutton, Kelso; Frank B. Pearson, Henry G. Bowes, O. C. Bradley, J. Hall, W. A. Allott, and Young, *North British Agriculturist*.

The HON. SECRETARY read the minutes of the last meeting, and these were approved of.

The CHAIRMAN said: the Secretary has received a letter from Mr. Hutchinson regretting his inability to be present, and one from Mr. Mills, Principal of the Bombay Veterinary College, asking for a copy of the rules and regulations of our Society.

NEW MEMBERS.

Mr. Peter Young, veterinary surgeon, St. Andrews, and Mr. John Young, veterinary surgeon, Dundee, nominated and proposed by Mr. P. Moir, and seconded by Principal Williams, were duly elected.

The CHAIRMAN: The next business is the election of office-bearers for the ensuing year. Personally I have to thank you very much for having supported me during the last two years, and having had a fair share of the honour, I now very willingly resign the office in favour of some other gentleman. I am sure there are plenty of members of the Society very willing and very able to step into the office, and I will be very glad to hear any gentleman propose some member.

Principal WILLIAMS: I think it is usual for the President to nominate a successor, unless you are willing to go in again.

The CHAIRMAN: Well, gentlemen, if there is no other, I have very great pleasure in proposing that Professor Owen Williams be my successor in office. He has taken a very great deal of interest in this Association, and I do not think we can do better than have a gentleman who is well-known in the profession, and one who takes a very enthusiastic interest in all the doings of our Association. I therefore have great pleasure in proposing that he be appointed President of this Association for the ensuing year. Mr. Boyd seconded.

It was mentioned that Professor Owen Williams was unwell, otherwise he would have been present that afternoon.

Mr. MOIR: I put this matter to Professor Owen Williams, and after a certain amount of natural diffidence and hesitation in accepting so onerous and honourable a post he consented, if he were nominated, to make an effort to carry out the duties of President.

The CHAIRMAN: Then this is carried unanimously.

On the motion of Principal Williams, Mr. Clark (the retiring president), Mr. Boyd, and Mr. Spreull, Dundee, were appointed vice-presidents.

The CHAIRMAN: The next important office-bearer, in fact the only other office-bearer, is our worthy secretary. He has been very energetic in all his duties, and I am sure if he only consents to again take the reins of office they are quite safe in his hands. I have great pleasure in proposing that Mr. Moir be re-appointed secretary.

Mr. MOIR: Mr. President and Gentlemen, I think that the offices of the Society should go round. There is no doubt that there are other members of the Society who would be very agreeable to take the office.

Principal WILLIAMS seconded the motion.

Mr. MOIR :—If nobody is particularly anxious for the office I will have great pleasure in carrying on the work for another year.

SPECIMENS.—BRONCHO PNEUMONIA.

Principal WILLIAMS : I may state that I have here microscopic sections and naked-eye specimens of bronchio-pneumonia and pleuro-pneumonia. I brought up this matter last year, and I thought it would have been thrashed out. I should be very sorry indeed to have brought this matter forward if I had thought for a moment that an investigation would have been allowed into the nature of the reported pleuro-pneumonia that was found in Fife. All I have to say is that the Government, so far, and their officials have smothered all investigation. (Hear, hear.) Even to day in *The Scotsman* we find than the answer of the Board of Agriculture to the Perthshire County Local Authority is that they could not possibly send them a piece of the lung of the Canadian bullock killed at Ardgaith, because it presented nothing extraordinary, and unless a lung presented "some very unusual morbid appearances" the veterinary officers were not in the habit of preserving these lungs. Now, I ask you in all fairness, does this show whether the veterinary officers of the Privy Council wish to smother this matter or wish an investigation ? I say that every lung of an animal which has come from America now must present some extraordinary condition, some extraordinary lesion, and therefore these lungs ought to have been preserved, in order that the scientific world might satisfy themselves whether this disease was pleuro-pneumonia or not. But instead of that the lungs have been done away with, and (pointing to a jar on the table) so far as I know this is the only piece remaining of the Canadian lung in dispute, this portion of the beast killed at Lindores in Fife, the origin of all this row. It is here to-day before you for your opinion, and I want the candid opinion, both of my profession and of the scientific world, whether this is pleuro-pneumonia or not. If I am wrong I will eat humble pie and beg a humble pardon at once, but if right I think I should be treated with rather more courtesy than I have been. I think I was entitled to have a look at more pieces of lung than I had. I maintain the same position as before, and I am again supported by M. Nocard. I have here before you—and you can judge without opening the jar—pieces of six lungs referred to in that Dundee paper to-day, where it is said that ten lungs were found in Deptford having pleuro-pneumonia. I have pieces of six of these lungs in this jar, and if you look at them, with one very doubtful exception which is at the bottom and which can be fished up and examined, I think anyone will tell you that is not pleuro-pneumonia. The very fact that the sections are floating on the top of the water and not underneath is quite sufficient for me. With reference to these lungs I have a letter this morning from Dr. Wray, American Inspector at Deptford, sending me six sections of lung which had been condemned by the Government Inspectors as having pleuro-pneumonia. These came by the screw steamer Borderer, which landed on November 2nd 679 head of cattle. They were sent to Dr. Wray by Dr. Ryder, who is also an American Inspector of the Port. These lungs had been examined by M. Nocard who stated very positively that they were cases of catarrhal pneumonia, and not of pleuro-pneumonia. Therefore it appears to me that the lung of every animal landed in this country, which is found on being slaughtered to have signs of any disease of the lung, is marked down as having pleuro-pneumonia contagiosa, and that further investigation is suppressed by the destruction of those lungs, giving no one a chance of examining them. I am forced to this conclusion, and I trust that the expression of this opinion will force the hands of the veterinary authorities of the Privy Council, and will compel them to come forward and appoint some independent authority to examine this section which has caused all the mischief, and those other sections which are before you, and give an independent opinion. Mr. Leng in his letter says : "I have committed myself 13 years ago, and I maintain that commitment is perfectly right and will be justified by events. I am forced to this conclusion that either the professional advisers of the Board of Agriculture, the veterinary officers, are guilty of having committed a gross professional error, or else they are aiding and abetting a political fraud, and I think I shall be in a position to prove that." The whole thing was exhausted before. When a section is cut from the seat of disease it sinks at once down into water. In broncho pneumonia it may not sink at once. It certainly may in this case sink after it has become saturated with water, but pleuro-pneumonia sinks at once, whereas in those cases which are stated to be pleuro-pneumonia by the authorities they are on the top. Although they have been in this fluid for more than a week, here they are still on the top, and one of them is one of the most beautiful cases that you ever saw in your lives. I now pull out this great piece of lung which is in dispute. This is the Lindores lung which has become very valuable, and more so every day because it is becoming smaller. I have sent sections to Canada. I have not consulted Mons. Nocard because I have consulted him already, but there is the piece to examine for yourselves. I have also here a specimen sent from Nebraska, Western America, by Dr. Billings who is the chief of the Government Pathological Laboratory in Nebraska. It is a typical case of the so-called corn-stalk disease. Now, any man might be suspicious of this. It is so exceedingly consolidated, so solid indeed that at the first glance you might think it was pleuro-pneumonia. But if you look you will see that the blood vessels are perfectly empty. There is no coagulation. There is no clotting of the blood-vessels, and in making a microscopic section I find that it is identical with what we found at Deptford, and with what was found in 1879 at Liverpool. I have an 1879 lung in my possession, at least a portion of one, and microscopically they are all identical. Some cases are much more chronic than others, and you can understand that animals coming from America might have passed through this disease long ago, exposed to the inclemency of the weather in America. They perhaps have to travel 300 miles from the Western States to the port of embarkation. You never hear of this disease during the summer. They are exposed to the cold night and day, and then they are over-crowded in a ship, and perhaps have a very rough passage. Indeed, it is a great wonder that there are not more affected. I wish to point out a most remarkable fact about this outbreak. These animals landed in this country on the 6th of October, and they were found affected on the 21st October. About 1200 head of cattle were landed in this country, but I think there were two ships. Well, we will say that the ship *Hurona* contained half of them, and I think the disease was found in both ships. If they had pleuro-pneumonia they must have had it before they left Canada. They could not get it on board ship ; we all know that. They must have had it in Canada. There were 600 cattle in each ship, and they were closely confined together. The last were killed a few days ago—six weeks after landing and after being in contact at least eight weeks, perhaps longer. I ask you as veterinary surgeons, Is it compatible with the history of pleuro-pneumonia that so few cases should be found among these 1200 head of cattle ? If it had been contagious pleuro-pneumonia when these cattle were in Canada, and seeing they were horded together, at least 25 per cent. of them would have been affected with pleuro-pneumonia. Is that not the history of the disease ? Instead of that we have only had four

or five cases, which I maintain may certainly not be as well developed broncho-pneumonia as the specimen I have before you, but these are nothing but broncho-pneumonia. It is against the history of the disease altogether; it is against common-sense, and it is against experience. Gentlemen, I have nothing more to say. The specimens are all there—specimens of 1879, sections of Billings' lungs, and sections of this Lindores lung. I have no purpose to serve, except to elucidate the truth. The specimen is here to be submitted to anybody whom you like, and I would only say that our great Agricultural Society should appoint a commission to investigate into the matter. I have still a piece of lung preserved for that purpose. Thousands of sections can be made out of it, and shown to the whole scientific world. I think I have given you sufficient food for reflection, and if you wish to open this parcel out, you can examine those lungs for yourselves. Now, Jonathan wants to claim this as an American disease, commonly called the corn-stalk disease. It is called corn-stalk disease because it is said to follow upon the cattle eating corn-stalks in a decomposed condition. First of all they have a sort of inflammation in the bowels, purging, and so on, and they die in from eight hours to as many days, but we find the same condition in this country. I have lungs from Ireland, presenting exactly the same character as this disease. We have also lungs from Lancashire with exactly the same character. M. Nocard says it is found in France. Billings disputes that, and he wants to claim it entirely as an American disease. Many of you have found cases of bronchitis or septic pneumonia. An animal dies from bronchitis or inflammation of the lungs The same condition exactly is found in these cases as is found in the corn-stalk disease. It is possible it might be a case of blood-poisoning arising from eating corn-stalks, but to my mind I see nothing incompatible with the history of an ordinary cold—travelling, battened down on board ship, and subjected to rough usage at sea. There is nothing incompatible with this disease arising from ordinary causes. I do not attach much importance to the bacterium, but the same bacterium is found in the Lindores lung as was found in Deptford and in America. The same symptoms were noticed — the switching of the tail, followed by bellowing, and running after dogs and chickens, in fact anything coming in their way, straining so violently that many of them erect their sternum, become paralysed and so stand until a short time before death. The wildest ones die in the shortest time. They are sick from eight hours to seven days. The majority of them become wild or delirious and die within 24 hours after the first symptoms being noticed. Those are the symptoms—differing entirely from pleuro-pneumonia as we have been in the habit of seeing it in this country. Therefore I say that the whole history of the disease is incompatible with that of pleuro-pneumonia contagiosa, and I think a commission, investigating into this valuable specimen which is left to us, will convince anybody that the Government have made a gigantic mistake. I say it with all due respect, wishing to cast no slur, that a great error has been committed, and further than that, that those who have committed the error have no wish to see it rectified.

Mr. R. RUTHERFORD, Edinburgh, said:—It is quite possible that what falls from each individual speaker this day may, in process of time, become historical on this subject; and to my mind each of us should be very careful in what he has to say. We are face to face with a question which has agitated not only this country but the whole Continent of America—all those, indeed, who are interested in the exportation of cattle to this country —a question which affects us equally, not only on this side of the water, but on the other side. We are met with two diametrically opposite ideas, and more than ideas; published opinions by men who are experts in this profession of ours. Those of us who are only amongst the common run of the profession have to be all the more careful in what we are about and of what we say. Now, for my part I was prepared to state same opinion, but since I came into this room my friend Mr. Young, of *The North British Agriculturist*, has handed me a copy of to-day's *Dundee Advertiser* which will make me at any rate more careful. In that paper is a letter from Mr. Long, the member for Dundee, to Mr. Gardner, the Minister of Agriculture for the Government, in which he, speaking for the agricultural interests of Forfarshire, says that they are quite disatisified with the state of affairs as they at present stand. That is to say, with the opinions of the Board of Agriculture and the opinions on the converse by Prof. Williams; that, as it stands, the thing is only settled in favour of the Government and not to the satisfaction of the country. He says, "They think that your Board, in permitting further importations, are themselves in doubt on the point. What they therefore suggest and desire is that the matter should be fully thrashed out as between your veterinary advisers in London and the Scotch Professors and Vets. They don't wish you to call in men like Professor Williams, who, however able, have committed themselves to a decided view, opposed to that of your advisers. But there are others in Scotland, like Professors McCall and Walley and Mr. Rutherford, whose opinions carry great weight. If you brought these men into consultation, and got from them a clear opinion one way or the other, it would be at once accepted. As it is, the complaint is made that your Board will give no satisfaction either by submitting the lungs to independent examiners or testing its view by resorting to inoculation." Now, for my own part, I say at once, and say plainly, I do not, not being a trained microscopist, profess to be able to give an opinion absolutely reliable, upon preserved specimens. I say that at once, but I do say that, as an ordinary practitioner and one who has had a large experience in this disease, I think I would be able to recognise the disease in the lung as it is taken from the dead animal. That, in fact, is the opinion which was held and enunciated to me by a prominent member of the veterinary staff in London. They also thought that if anyone could not recognise this disease in the lungs taken from a dead animal, his opinion, as a practical man, was not much worth having. I do not go that length, but I go the length of saying that I think, in a vast majority of instances, we ought to be able to say whether or not an animal was suffering from contagious pleuro-pneumonia. Somebody has been good enough to suggest that there are other ways of determining this disease to the satisfaction of the veterinary profession and of the whole world, and that one of these ways is by inoculation. To my mind it is the one satisfactory test for determining the existence of this disease or not, and I do not agree with Mr. Gardner or with his advisers when in reply to Mr. Leng he says:—"I have not overlooked that an endeavour should be made to obtain confirmatory evidence, or the reverse, by means of inoculation." I am glad to see that even at this time of day this great question is being taken up. Mr. Gardner proceeds:—"But as to this I would say that I am assured that not only has the disease itself never been communicated in such a manner, but that no symptoms have been produced in a living animal which afford any evidence, which can be depended upon, as to whether the animal from which the material inoculated was taken, was, or was not, suffering from pleuro-pneumonia." I give that a flat denial. The gentleman who enunciated that opinion knows nothing whatever about the phenomena of inoculation, and, knowing nothing of it, he should not have allowed that to appear in print. It is wrong, absolutely wrong, or else the whole of us who have practised inoculation, and the gentlemen who form the staff for conducting the

inoculation experiments, and the work of inoculation in Queensland, must be wrong also, and the opinions published by the Queensland Government must be absolutely wrong. Not only so, but they have been given to the world as ascertained facts and truth. Mr. Gardner says no phenomena are produced that can be relied upon. I say, on the contrary, that if you take pure virus from an animal suffering from pleuro-pneumonia, and introduce it into the lungs of a healthy one, you will produce pneumonia which no other disease can produce but pleuro-pneumonia contagiosa. I have no doubt that my friend, Professor Hunter, will tell you it would produce phenomena which would be identical with those of the pleuro-pneumonia lung. Further, the results of that inoculation passed into other animals reproduce themselves. It is a series of phenomena, each of which is a part of the first. There is another practical point I wish to refer to. Suppose the Government do not take up this suggestion of inoculation to determine whether the disease was really pleuro or not. They might reply to us and say, "We are not prepared to admit that the results you produce by the inoculation are indicative of the disease at all." They can do it in another way. They can take some of those animals that are the subject of pleuro pneumonia, and they can put them on some small island in the Hebrides, and they can make them live with healthy stock, and if they have contagious pleuro they will produce it in their neighbours. There are two ways, then, which the Government advisers have in their power to determine whether or not this is contagious pleuro-pneumonia, and those are by inoculation and by the propagation of the disease by contact. Both methods are quite within their province, if they are anxious to settle the question for ever. More than that, it is quite within the province and within the rights of the Canadian Government to ask that experiments of that nature should be carried out. I have no more to say except this, in reply to this letter, that I hold that inoculation, in opposition to what they say, can determine whether this disease is true pleuro or not, and I also hold that they can determine it by the practical method of placing a diseased animal in contact with healthy ones, in a position where the country may not be in danger.

Principal WILLIAMS pointed out that both the Americans and the French had tried experiments in inoculation, and quoted from Billings, who stated that many animals died after inoculation.

Professor HUNTER said of course they all knew that he was not a practical man, as far as being able to recognise disease in an animal before or after death; but so far as he had been able to judge from specimens, taking for granted that the history of these specimens up to the time he saw them was correct, he might tell them that he had no doubt as to a very profound difference as to the appearance of a lung affected by pleuro-pneumonia and one attacked with broncho-pneumonia. He remembered distinctly on the first occasion that Professor Williams showed him a lung affected with disease he considered that if it was not pleuro-pneumonia it was something very like it. On seeing it a little more closely, however, he found with the little experience he had that it had not the same look. On having the specimen hardened and on examining the section, he expressed the opinion at once that the lung looked exactly as if the animal had had an affection which was common in the human subject, especially among children. They become choked and have great difficulty in breathing. The lung of these children is like that of an animal which is found severely affected by this broncho-pneumonia. They had the air cells blocked with bulky bodies, and they were more or less suffering from a state of chronic inflammation. He did not deny that there might be pleurisy in some of those cases. They might call it pleuro-pneumonia, but the term pleuro-pneumonia contagiosa was indicative of an entirely different disease. He considered that a non-professional man who had placed before him two typical specimens of pleuro-pneumonia and broncho-pneumonia side by side—anyone who had not committed himself to an opinion—would say at once that they were two perfectly different things, and although they might not be able to describe them in technical language they would be quite convinced that they represented two different states of disease. He did not say any man had tried to make distinctions which did not exist, but there was just a shade of possibility that, as in everything else, they sometimes had things placed before them that they did not want to see. It was quite possible, having some object in view other than pure scientific research, not to say political or otherwise, that when specimens were placed before a man in those conditions he said public things that he would not otherwise say, and things appeared to his eyes as they would not otherwise do. They could conceive such matters affecting them as being not altogether above human motives. The pure scientist was an imaginary character, he could not exist. They were all more or less connected with business or commerce, and it required a very considerable amount of dissociation from commercial and political associations for them to give a decided impartial opinion on almost anything; and in a case like this where there were so many interests at stake, and where there were so many officials connected with the investigations, it came to be really a very difficult matter to try and say who were right and who were wrong. But in this matter so far as the mere distinction about the character and shape of the lungs was affected, he thought there could be no difference of opinion whatever as to a typical case of pleuro-pneumonia contagiosa and broncho-pneumonia. There could be no possible way of getting out of it that these were two entirely different things, leaving it to those who had followed up the previous history of the case—the symptoms exhibited before death—to clear away the difficulties which encumbered the case. To the common run of veterinary surgeons in a common practice the similarity might be so great that it was excusable for a man to make a mistake, but on the other hand he did not think there was any reason for a man who was an Inspector appointed by the Government, upon whom the responsibility of many thousands of pounds rested—not to talk of the scientific value of the whole matter and the commercial side of the question—he did not think there was any excuse for a man with that responsibility resting upon him to say that a *bona fide* case of broncho-pneumonia was pleuro-pneumonia. He considered it was a culpable error, and the sooner the matter was overhauled by totally independent examiners the better it would be not only for this country and other countries, but the better for the value of scientific opinion. It was said that doctors differ, but it was a remarkable thing that when scientific experts came into court they were found differing so much as they did. The outside public looked upon them as a set of quibbers and shufflers, addicted to private quarrelling. He thought it was a great pity that scientists should be found descending to little personalities in matters of so great interest. (Applause).

Mr. RUTHERFORD said Professor Hunter's closing remarks urge me to suggest that both Principal Williams and he should be asked to withdraw that portion of their statements where they would impute a political motive to the action of the Board of Agriculture.

Principal WILLIAMS:—I do nothing of the sort. I don't withdraw one single word.

Mr. RUTHERFORD:—I think as a body of scientific gentlemen I would like to utter my protest.

Professor WILLIAMS:—That is my independent opinion, and I don't intend to withdraw one single word.

Mr. RUTHERFORD:—I think as scientists we are stronger in approaching this question from a purely scientific point of view, instead of from political or personal motives.

Principal WILLIAMS:—I have no reason to withdraw one word.

Mr. CAMERON:—My idea is that it is no use waiting and expecting that the Government will push forward any further investigation of our specimens. Would it not be well to push the thing further from this end, and have the very highest possible scientific evidence upon the specimens? It is a good many years since I was thoroughly convinced that there are other interests besides pure science which animate the decisions not of the present Agricultural Department, but of the old Veterinary Department of the Privy Council. It is a good many years ago that I was convinced that there were other interests than science that affected them, and I have not the slightest doubt that they are in operation still.

Mr. BOYD said he would not ask the Professor to withdraw one word of what he had said. Professor Williams had given his decided opinion that it was not pleuro-pneumonia, while Professor Brown had given it as his opinion that it was pleuro pneumonia, and all the veterinary surgeons were held in derision in this matter. They had not had an opportunity of giving their opinion on the subject, and he would certainly force an investigation to decide whether Professor Williams or Professor Brown was correct. He did not think they should ask Professor Williams to withdraw one word.

Principal WILLIAMS—If my wife were to ask me I would not withdraw. We have asked for an investigation and you see how we have been treated.

Mr. STORIE:—Apart from the question whether the disease is pleuro-pneumonia or broncho-pneumonia I think that both the present Government and the previous one have been very much to blame. I think the matter lay entirely in their own hands, and it would have been very simple indeed for either of the two Boards of Agriculture to have proven whether the disease was pleuro-pneumonia or not. They had, as Mr. Rutherford stated, inoculation to work upon and they had contact to work upon, and I think it was their duty to prove to the satisfaction of the country the real state of affairs, whether the disease was pleuro-pneumonia or broncho-pneumonia. I think that instead of all this agitation the matter should have been settled without us having to move in the matter.

The CHAIRMAN:—I think I have been as much amongst this agitation as most of you. I come from the very centre of this agitation, and I may say that a very serious agitation has been going on among the farmers of Fifeshire, Perthshire, and Forfarshire, and I don't wonder at it. The fact is that if the Privy Council have to carry out this system of slaughter with every consignment of cattle that arrives here, then feeders, at all events, will be in a very bad way indeed. I do not want to commit myself in anyway; in fact I cannot. Like Mr. Rutherford I am not an expert with the microscope. I have seen a great deal of pleuro-pneumonia contagiosa, and I have also seen a great deal of what is known as sporadic pleuro-pneumonia. We have also had very largely a form of septic pleuro-pneumonia. I have seen an article on this very subject recorded in a Board of Agriculture work recently published by a Fife veterinary surgeon Dr. Coles. With reference to what Professor Williams says I think he is perfectly consistent in his case for broncho pneumonia. I can well remember in 1879 having seen at the Veterinary College samples of this same disease, and so far as my recollection carries me the disease that I saw then is exactly the same as that seen now. Then the other point where I think the Veterinary Department of the Government have gone very seriously wrong is in not submitting the specimens to some expert, Mons. Nocard for instance. My reason for mentioning his name is that all personal interest would be laid aside. I am only suggesting this as being satisfactory all round, especially to the farmers in Forfarshire and the North, who would be satisfied with a declaration by Nocard. Another thing which strikes me is the fact that 1200 cattle could be consigned from Canada to this country, and although eight weeks elapsed one five animals should be affected. I think that is a sufficient reason at all events why we should have an investigation. I think, gentlemen, that is all I have to say on the matter.

Mr. CAMERON said that either they were making a derision of their profession, or else those in London were, and he thought they should give facilities for proving themselves innocent or the Government officials guilty.

Principal WILLIAMS:—Here are the specimens to be submitted. Appoint a commission to-day, and prove me right or prove me wrong.

Professor HUNTER:—I would make a strong point that inoculation should be performed. I think the result of inoculation as already carried out in Canada and Queensland and the United States are conclusive enough, and if the thing were repeated in this country I think the results would go much further to convince not only the non-professional men who are not able to judge of very fine distinctions, but even a large number of professional men who are able to judge of the symptoms.

Principal WILLIAMS:—I should like a resolution that this matter should be further investigated by the authority of this Society. Somebody else should examine this piece of lung; it may not cost much. Appoint a commission if you like.

Mr. RUTHERFORD:—Let us send a small section to Dr. Young and another to Professor Hamilton.

Principal WILLIAMS:—I would not accept Dr. Young. He does not know pleuro-pneumonia; he says it is bronchitis. Professor Hamilton I don't object to.

Mr. RUTHERFORD:—Let us send sections to Mr. Crookshank, Professor Nocard, and Professor Greenfield.

Principal WILLIAMS:—What has Crookshank done?

Mr. RUTHERFORD:—Most of them have written on the subject.

The CHAIRMAN:—Who is to pay the piper? It would be a great pity to involve the Association in the payment of any expense.

Principal WILLIAMS:—Very well, gentlemen, I will ask the Highland Society to do it.

The CHAIRMAN:—I am prepared to give a subscription for the purpose. Do not suppose that I intend to throw cold water on the scheme, but as President I do not think I would be doing my duty if I did not point out that we have not funds to go in for an object of this kind.

Mr. RUTHERFORD:—I confess myself it would not matter if we had the written opinions of 5000 experts. The Government of this country are tied to the opinions of their veterinary staff. They must take their opinion or dismiss them. They cannot possibly have a staff and not be guided by their advice. That is the case with all Governments and all executive staffs. There are still means open to us, and there are clinical methods, making ourselves certain whether this is pleuro-pneumonia. If any experimental methods are adopted I am prepared to assist by my hands and my purse. If pleuro-pneumonia was brought to this country there must be still plenty of it left in Canada.

Mr. CAMERON:—We have got the thing here. Why not decide upon it when we have it?

Mr. RUTHERFORD:—The Government have committed themselves to an opinion, and they won't listen to us.

Mr. CAMERON :—We can deduce evidence that will satisfy the whole country that they are wrong. Surely there are sufficient experts to prove that they are wrong, and after having proved them wrong we can wait and see what the result will be.

Mr. RUTHERFORD :—I do not think it will cost very much. I will pay part of the expense to have this lung examined microscopically, but I think the other tests are those which will satisfy the ordinary clinical mind. This matter cannot end. Send these specimens now to microscopists to be examined. The Government have given their opinion. In their letter to Mr. Leng they have left a loop-hole for inoculation, because they say inoculation won't prove it. We are prepared to say that inoculation can prove it, and we ask them to put it to the test. They cannot say, on the other hand, that contact with others won't produce it. Let them put that to the test. These are quite sufficient to satisfy not only the veterinary surgeons of this country but of the whole world.

Mr. CAMERON proposed that specimens be sent to Professor Greenfield, Professor Hamilton, and Mr. Crookshank.

Principal WILLIAMS :—Crookshank is associated with the London Society. We must have an independent authority—Nocard, if you like.

Mr. RUTHERFORD :—Unfortunately Nocard has committed himself to an opinion on this subject.

Principal WILLIAMS :—He has not committed himself to an opinion upon this particular lung. Ask the Highland Society to do it; surely they can afford to do so.

Mr. BURNETT :—I propose that the Highland Society be requested to take up this subject and have it investigated—that is to say, to have it determined whether the portion of the Fifeshire lung which is still in the possession of Principal Williams is affected with broncho-pneumonia or pleuro-pneumonia.

This was unanimously agreed to, and the subject dropped.

GRASS STAGGERS.

The CHAIRMAN stated that the next business was a communication by Mr. James Storrar, F.R.C.V.S., Chester, on the subject of "Grass Staggers in Cattle." This was a criticism of a paper which he himself had delivered at last meeting. He proceeded to read Mr. Storrar's paper which was as follows :—

Mr. James Clark, F.R.C.V.S..

Coupar Angus. Nov. 14, 1892.

DEAR SIR,

I have read with great interest the account in *The Veterinarian* of your veterinary meeting at Dundee. The subject, "Grass Staggers," is one in which I take a very great interest, and one in which I claim to have some little knowledge.

When I was a boy at school, a good many years ago now, my father had three one-year old bullocks attacked on one day with the symptoms so well understood and expressed by many of the gentlemen present at your meeting. Two died very soon after bleeding and dosing, the third lived to be healed for about three weeks.

The disease was exceedingly common all around Banff, where I then lived, so much so that many farmers dreaded to turn their one-year olds out on their own farms but rented grass fields at a gentleman's place. The disease was mysterious to all there then, as it is to you and your friends now. Mr. Mari Cuming, who took his diploma in 1846, did not find in Professor Dick's lectures a satisfactory statement as to the nature of this disease, nor of its cause, and gave the subject his very special attention. He made post-mortems and found, visible to the naked eye in some cases, refuse paint—among the rough stones, nails, and other *debris* in the first and second stomachs and sometimes even farther back in the intestinal canal, and when the animal died, having the same symptoms and the poison not visible, analysis always showed the presence of lead. Mr. Cuming was an accomplished analysist and retained the specimens of his test products with great care and detail for the benefit of the profession. He published his paper in the transactions of the Highland and Agricultural Society, about 1889 or 90. I am sorry I cannot now find a copy so that I might be definite about it.

I give you a little detail regarding the practical professional aspect of the rubject. When Mr. Cuming was collecting facts on which to found a principle he came to my father's house, having heard of my father's loss. He asked, had my father ever carted a painter's midden to his farm? My father did not recollect. I was present and recollected that a bookbinder's midden had been carted, and in the same yard was a painter whose refuse went into the same hole, and memory being thus refreshed, it was remembered that lumps of refuse paint were spread in the drills along with other manure for the turnip crop. Next year oats were sown and grass seeds; in May, the following year, during dry sunny weather, the cattle ate the lead; the paint having been *in* or *on* the land for two years. This is but one of a hundred cases that were traced to refuse lead carted in black muck to the fields all around Banff and MacDuff. From that day till the time I left the district 17 years after the disease had almost disappeared, a case being seen only at a country carpenter's shop, or some such accidental manner.

I think I am safe to say that around your several country towns where "town manure" has been carted there the disease is common.

I hope you will excuse me while I detail a case in my practice. In the year 1848 I was young and comparatively unknown, but being near I was hastily called to a large farm where I did not expect to be called, as an experienced and respected veterinary surgeon had attended there for years, although living at a considerable distance. I found several year-olds suffering from lead-poisoning; I said so—the farmer looked incredulous—the manager expressed his surprise. I asked if tradesmen had been about? *No.* If they had carted town manure? *No*, they had been six years on the farm and had not driven any muck, nor had painters or carpenters. I was evidently not believed. I suggested that their ordinary veterinary attendant should be asked to meet me next morning if possible, when, as I had no doubt one or more of the animals would be dead, we could have a post-mortem. My suggestion was agreed to. The following morning, as I expected, two were dead: I got a tub by a running stream and washed the contents of the stomachs; among the small stones and other heavy dirt always found in the second stomach, and often in the first and fourth, I found, visible to the naked eye, pieces of old paint, red, blue, and green; this was sufficient to convince my client, his grieve, and my esteemed brother—the lead was there, wherever it came from.

We went to the grass field and examined it but could find no paint. But what was to be done with the field? it was sufficiently fenced for cattle, but not for sheep, and to meet the difficulty a boy was sent to herd the sheep during the day—folding them at night—the master said to the lad he would give him 6d. per lb. for any paint he could find. The lad soon earned a few shillings by his finds and the explanation was forthcoming. The previous tenant had carted manure from Banff for this field the last year he was tenant—six years before. That year he had turnips on the field, these were fed off by sheep, and it was laid down in grass and grazed by sheep for two years till, in the course of rotation, it

came again into grass and thus six years had passed before the poisoning occurred.

I must again plead for forbearance while I state further that Mr. Cuming with whom I became a pupil expressed himself as willing to stake his reputation on the statement that everyone of these "grass staggers" cases without exception were caused by one or other of the preparations of lead.

I have on more than one occasion endeavoured to get the attention of my professionsl brethren to this subject, but it has not received the consideration it deserves. I am now practising in this place, after doing so in Aberdeenshire for 17 years; I found the same disease prevalent here when I came, it has almost disappeared now that the *paint floor cloth* and *other lead refuse* is carefully looked for by those who cart black muck.

In explanation of my writing to you I may say that my first intention on reading the report of your meeting was to write a criticism and send it to *The Veterinarian*; but on a previous occasion I wrote in answer to a paper by a friend who wrote on "Staggers," I did not do it in very good taste, and my young friend took mortal offence; so on this occasion I have written to you to do with the paper what you like. As the matter has now been under notice in your district, the minds of your members will be more receptive than if they had not thought of it before. Allow me therefore to suggest that this letter may be read at your next meeting and discussed, and if you are satisfied that what I have stated *may be correct* let it be tested in your practice and as Mr. Cuming in his own district saved many hundreds of pounds annually to the farmers, so may each one of you to your clients. I observe that you refer to lead poisoning, and that lead is named in our veterinary literature, but no one author has seemed to be able to know the disease in its distinctive character except Mr. Cuming, and those who came closely under his personal tuition.

I am, yours very truly,

JAMES STORRAR.

The CHAIRMAN, on concluding the reading of Mr. Storrar's paper said—I entirely disagree with Mr. Cuming as to what we call grass staggers in the north arising from lead poisoning. If Mr. Cuming had happened to read Professor Williams' excellent book he will find a very good account of lead poisoning. I have drawn up a number of reasons for dissenting from this paper. This disease is very prevalent in Forfarshire, Perthshire, and Fifeshire, and I fancy in Kincardineshire, and round about that district.

In the first place there is an absence of lead on *post-mortem*; that is an absolute fact. 2—The definite period of the year at which the disease is developed is usually from the middle of April until the middle of June and at no other time. I wish special attention to be paid to that. If due to lead poisoning the disease should occur all the year round. 3—The disease appears year after year just from the middle of April until the middle of June, and it just as suddenly stops on the appearance of white clover; that is another absolute fact. 4.—There is a constant liability of particular farms to disease; that is another important feature. On special geological formations you get it, and on other geological formations you never get it. 5.—The severity of the attacks and the numbers of cattle affected vary with the seasons—it is most prevalent and most fatal after severe winters of black frost. This evidently is due to the up-rooting of clovers and permanent grasses, leaving a superabundance of rye grass. It is less severe and fatal when the winter is mild, ensuring an early supply of all the grasses; that is another strange feature in connection with it. 6.—If due to lead poisoning the attacks would be common all the season over; that is another important feature I think. 7.—Feeding with artificial foods once or twice daily while at grass until the critical period is over lessens, and in many cases ensures total cessation of attacks. 8.—The disease is found quite as constant and fatal where the use of town manure is unknown. 9.—If due to lead, how is it practically unknown in the proximity of large centres, such as Glasgow, Edinburgh, etc., I believe it is almost unknown in these districts, It is never seen, and though I worked in the South for a number of years, in Stirlingshire and Northumberland, I never saw a case until I went to the North. 10.—It is now an ascertained fact that grass disease seldom, if ever, occurs, at all events is greatly modified on farms notorious for disease, if precautionary measures are taken to sow a large preponderance of natural or permanent grass to the exclusion of rye grass. That is an imporaant feature, and it has been tested. I have suggested this to clients, and where we used to get disease prevalent year after year we never get a case now at all. I have here one or two lists of grasses sown, which I consider are very suitable for the purpose. 11.—I have never observed dribbling of saliva in grass staggers, this being a symptom of lead poisoning. 12.—Paralysis is not an accompaniment in grass staggers, it is common in lead poisoning. 13.—There is no blue line in the gums. 14.—Horses are subject to staggers, why not cattle? 15.—I have seen sheep fed on refuse hay with a large proportion of hay seed show the same symptoms as seen in cattle. Lastly, the disease is known to be most dangerous and fatal on the first year's grass; less so on the second year's grass; and rarely seen on the third year's grass; totally disappearing after this stage, and never seen in permanent pasture. I think the explanation of this is that in the first year, as every Agriculturist knows, on some lands the permanent grasses do not come very readily, and particularly, as I stated before, in serious winters of frost when the permanent grasses are uprooted and the rye grass is there in abundance.

Well, that is my reply. I just want to draw your attention to this matter of the seeds. I called a few days ago, after I got Mr. Storrar's letter, on a farmer whom I know. The fact is simply that if this farmer were to turn his cattle out after the middle of May until the middle of Juue I believe most assuredly he would lose every animal he has got, but now he has adopted a plan of artificial feeding. I said "Now tell me, if you please, your recipe for sowing down the seed." I got it, and after I began to look over it and compare it with others I am not at all astonished at the result. I found that he sowed on each imperial acre 34 lbs. of perennial rye, that is a bushel and a half. We know that this has been done on lots of farms up and down the country. Here is a feature I have noticed in connection with this case. There are 34 lbs. of perennial rye grass, 2 lbs. of red clover, 3 lbs. of white clover, 1 lb. of Cow grass, 1 lb. of Alsyke, and 1 lb. of Timothy, making in all 42 lbs. per acre. Now, the proportion here is, that of natural grasses and clovers, he has 8 lbs. of permanent grass and clovers to the acre, and he has 34 lbs. of perennial rye. Now, we know, or rather, I believe, that many of the seeds sold are not the seeds represented at all, but are largely rye grass; so that we have here, probably I should say, about nine-tenths of rye grass on this geological formation. I have here a copy of a recipe I have taken from the Agricultural Research Association, recommending per acre, for grazing, the following:—10 lbs. perennial rye grass, 5 lbs. Italian rye grass, 3 lbs. cock's-foot, 1½ lbs. meadow fescue, 1½ lbs. tall fescue, 2 lbs. pos trivialis, 1 lb. dogstail, 3 lbs. English red clover, 2 lbs. cow grass, 1 lb. white clover, 1 lb. Dutch clover, and 1 lb. yellow clover. It all comes to 32 lbs. an acre. The proportion is, that of permanent grasses you have 17 and of rye 15, so that there are actually 2 lbs. more to the acre of permanent grasses than of perennial rye. Another of the farmers in my neighbourhood, I find, has a recipe

which is a much more rational one. He does not reduce the quantity of rye grass very much, but he puts in a very large proportion of permanent grasses and clovers. This recipe is, 28 lbs. Ayrshire rye grass, 4 lbs. Italian rye grass, 4 lbs. cock's-foot, 3 lbs. Timothy, 3 lbs. mixed fescues, 4 lbs. red clover, 3 lbs. white clover, 1 lb. yellow clover and I lb. alsike clover. In all 51 lbs. per acre. The proportion is, 23 of permanent grasses and clovers and 28 of rye grass. That shows a mighty difference. Here is a recipe which I took on chance from a farmer whose animals used never to be without this disease: 18lbs. perennial rye grass, 5lbs. Italian rye grass, 3lbs. cock's-foot, 3lbs. meadow fescue, 2lbs. evergreen fescue, 3lbs. Timothy and 8lbs. clover, in all 42 lbs. per acre. The proportion of natural grasses is 24 to 18.

I think from my investigations and my experience of this disease that it is due to rye grass, causing acute gastritis.

Principal WILLIAMS: I quite agree that lead poisoning is not the cause of grass disease. I think your exhaustive reply will be very beneficial to the profession.

This was all the business.

PETER MOIR, *Hon. Sec.*

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

The 15th general and 2nd annual meeting of the above Society was held at the Blackfriars Hotel, Manchester, on Wednesday, December 7th, 1892.

Peter Taylor, Esq., the President, in the chair. Present: Messrs. T. Briggs, T. Hopkin, W. A. Taylor, W. Woods, E. Faulkner, T. Leather, J. B. Wolstenholme, T. Greaves, A. Leather, and the Secretary.

Minutes of the last general meeting were read and confirmed.

Letters of apology for non-attendance were received from Prof. Williams, Prof. Walley, R. S. Reynolds, H. Thompson, F. R. Stevens, A. W. Mason, and R. C. Trigger.

Letters were read from H. J. Dawes, Secretary of the Midland Counties V.M.A., intimating that Mr. A. Carless, of Stafford, had been nominated by their Society as a Life Governor of the National Veterinary Benevolent and Mutual Defence Society in the place of the late F. Blakeway.

It was moved that the Secretary write and say the nomination was accepted.

The PRESIDENT then addressed the meeting, he said he was pleased to meet the members at the general meeting once more, and congratulated them upon having had few cases during the last year, he drew attention to the case of Hall v. Leather, and advised members in all cases in which it was at all likely that an action at law would be taken against them, to be fully prepared, to call in at once some brother practitioner to see the case, and have the animal in question valued by a competent person. He also wished to call the attention of members, and more particularly of members of the profession who had not joined our Society, that we had three free studentships—one each—generously placed at our disposal by the Royal College, London. Prof. Williams, Edinburgh, and Prof. McCall, Glasgow, each of which was at present vacant. The last nominee received his tuition with Prof. Williams. We have to regret the loss of two or three members, through death, amongst which was one of our Life Governors, Mr. Blakeway.

The SECRETARY then read his report in which he said the Society had progressed faily well during the last year, having enrolled 14 new members, showing that the reduction of the entrance fee was a popular movement, at the same time he did not think members of the profession, and especially the younger ones, supported the society as they ought. He would have thought every new member of the profession commencing business on his own account would join at once, as it would relieve him of a great amount of anxiety and expense if ever threatened with an action at law. We have had only one case brought before the Council during the last year, which was defended, the verdict being for the defendant with costs. We had several applications for assistance from non-members, but our rules precluded us from helping them.

No application had been made from our benevolent fund during the year.

The trust deed had been duly executed, and the societies' securities deposited at the bank, in the name of the trustees.

Mr. GREAVES in presenting his report said it afforded him much pleasure to be able to show a continued increase, not only in the amount of funds but also in membership. In 1865 when we launched it we had only nine members with £9 9s. in funds; in 1866 we had 90 members and £159 in funds. Since that date I have had the honour of being your treasurer; Mr. Peter Taylor, president; and Mr. Geo. Morgan, secretary.

Our funds are now £3,035 in the Benevolent Branch, viz. £1900 invested in the Mersey Docks; £900 in the Manchester Corporation, and £235 in bank. Bringing in about £125 annually.

The Defence Fund amounts to £242.

We have 122 members. During the last 25 years we have lost 70 to 80 members from death and other causes, during which time our funds have been materially increased by donations, etc., for instance:—

The Lancashire Veterinary Medical Society,	£50	0	0
The Liverpool " " "	25	0	0
The Yorkshire " " "	30	0	0
The Midland " " "	30	0	0
The Edinburgh " " "	10	0	0
Mr. Childe of London	21	0	0
Mr. F. F. Collins	15	0	0
Mr. Field's bequest	52	3	4
Miss Dicks' "	92	18	2
The Scottish Metropolitan Vet. Med. Society	20	0	0
And in 1869, ten members of our society subscribed £10 each	100	0	0

Although in 1866 the entrance fee was reduced from £5 to 21/-, and the annual subs. from 21/- to 10/6, still by diligence and economy we have been able to build up and firmly establish this society. Our arrears are less now than ever they have been. It is quite true of late we have had few calls upon our funds, I find that during the above period we have voted about £200 to orphans and widows of members, and expended over £350 in law suits and settlements of 13 cases.

The Council have been called together to examine and carefully adjudicate upon some 70 other cases, from which a large and interesting experience has been gained, and seeing the tendency and frequency of law suits, in which the veterinary surgeon is held actionable in giving an honest opinion as to soundness of horses, or advice in his daily avocation, it will be evident to every member of our profession how desirable it is to join our society, and for that purpose we earnestly invite them to do so. In conclusion I beg to record the fact that during the 26 years this society has been in existence, the number of cases the officers have had to deal with, the hundreds, nay thousands of miles they have travelled on the society's account, has all been done at their own expense, with one exception, and that was in 1869, when one of the officers charged £2 9s. 7d. for expenses in attending a trial at Enniscorthy, in Ireland, in defence and support of a professional brother.

The following officers were re-elected :—Peter Taylor, Esq., *President*; Geo. Morgan, Esq., *Vice-President*: Thos. Greaves, Esq., *Treasurer*; S. Locke, Esq., *Secretary*.

MEMBERS OF COUNCIL.

Thos. Briggs, Esq. J. S. Carter, Esq. E. Faulkner, Esq. T. Hopkin, Esq. J. Lawson, Esq. R. S. Reynolds, Esq. W. A. Taylor, Esq. H. Thompson, Esq. R. C. Triggor Esq. W. Whittle, Esq. W. Williams, Esq. F. W. Wragg, Esq.

AUDITORS.

J. B. Wolstenholme, Esq., and J. W. Ingram, Esq.

The meeting terminated with a cordial vote of thanks to the officers for their services during the past year, and to the chairman for presiding.

SAML. LOCKE, *Hon. Sec.*

BORDER COUNTIES VETERINARY MEDICAL SOCIETY.

The last general meeting of this Society was held at the Crown Hotel, Penrith, on the 13th of October. The President, Mr. Pender, of Lockerbie, occupied the chair. There were also present Messrs. Rutherford, Edinburgh; Donald, Wigton; Howe, Keswick; Carlisle, McKie, Bell, Young, Carlisle; Thompson, Aspatria; Pears and Armstrong (the secretary) Penrith.

The meeting is usually held at Carlisle on the second Friday in October, but owing to the lamented death of Mr. Joseph Robson, M.R.C.V.S., of Penrith, one of the oldest and most respected members of the Society, it was decided to hold it in Penrith. The above members first of all attended Mr. Robson's funeral and acted as pall bearers.

The meeting being resumed, the minutes of the previous meeting were read and confirmed.

Officials for the ensuing year were then elected. Mr. Rutherford was unanimously elected President; Messrs. Pender and Pears, Vice-Presidents; Mr. Thompson re-elected Treasurer; Mr. Armstrong re-elected Secretary.

Mr. RUTHERFORD then gave a very interesting address on "Bowel Disease in the Horse," which aroused a long and instructive discussion, which could not be completed, and on the motion of Mr. BELL the discussion was adjourned till next meeting.

Votes of thanks to Mr. Rutherford and the President brought the meeting to a close.

JOHN ARMSTRONG, *Hon. Sec.*

REVIEW.

HORSES IN ACCIDENT AND DISEASE.

To fix a fact upon the memory—make a note of it; to firmly imprint a mental impression of anything seen—make a sketch of it. Some such rules seem to have been followed by Mr. J. R. Cox through his long professional career. The benefit to himself of his private practice is shown by the reputation he has attained as an observant and skilful practitioner; a benefit to others is to be found in the pages of this book. "Horses in Accident and Disease—sketches and notes" is the title, but it might have been "Graphic Pathology" or "Equine Disease illustrated by pen and pencil." Perhaps pencil would hardly have been correct as the illustrations are all pen-and-ink work reproduced in facsimile by a photographic process. The notes are few and short—just sufficient to guide one to an understanding of the drawings, of which there are 28. The sketches are clever, and most of them tell their own tale. They are not offered as finished works of art, but as true representations of attitudes witnessed by the author, who says in his preface "I should explain, in excuse of their appearance, that they were not drawn originally with any idea of publication, and they are now offered in responce to the solicitation of several professional friends." The book is an interesting novelty, and will certainly assist those who study it to more closely note the attitudes assumed by equine patients under different forms of disease and accident. This branch of the study of disease is now greatly facilitated by the cheap photographic apparatus which can be purchased and used by anyone. Those practitioners who do not possess Mr. Cox's artistic skill may well resort to photography, and thus preserve for others many valuable graphic delineations of disease and its effects.

* "Horses in Accident and Disease"—Notes and Sketches, by J. Roalfe Cox, F.R.C.V.S. David Douglas, Edinburgh.

EXTRACTS AND NOTES.

GLANDERS IN LONDON.

We have received for publication the following reply to reasons given by the Public Control Committee of the London County Council for not enforcing the Glanders Order of 1892 :

1—*Because no provision was made for the compulsory notification of disease by Veterinary Surgeons.*

Provision is made under the Act for the Compulsory Notification of Glanders "by the owner or person in charge." This would be entirely effective if compensation were paid to the owner, who would then have no inducement to conceal an outbreak of disease. Enforced notification by Veterinary Surgeons would require an Act of Parliament.

2—*Because no provision was made for examination by an Inspector of all horses submitted for public sale, and for certification of freedom of disease.*

Such examination and certification would be most misleading, as no expert can detect the latent form of disease which is the great danger at a sale. The certificate would give the buyer a false security, and would frequently bring discredit upon the Inspectors. The law provides completely against the sale of visibly diseased horses.

3—*Because no power was given for the sanitary regulation and supervision of all trade stables.*

Such power could only be given by a special Act of Parliament, and would be opposed by all horse-owners as an unnecessary and inquisitorial proceeding. In relation to glanders the law gives all the necessary powers of entry where reasonable cause to suspect the existence of disease can be shown. The recent Order conferred extra powers in relation to suspected horses. All power necessary for the effective suppression of glanders is afforded by the recent Order.

4—*Because the law to be effective should be uniformly administered throughout the country.*

The law in reference to Contagious (Human)

Diseases and general sanitation is not "uniformly administered." It is entrusted to Local Authorities controlled by the Local Government Board, and is not ineffective. The law concerning Glanders is entrusted to Local Authorities controlled by the Board of Agriculture. When the local authorities do their duty the regulations are everywhere uniform The omission of the London County Council to enforce the Order has unfortunately compelled all the neighbouring County Councils to decline action, for had the latter given compensation a regular trade in glandered horses would have sprung up from London to the counties around. Ninety per cent of all the glandered horses in England are found in London, and we may safely conclude that the disease in Kent, Essex, Herts, Middlesex and Surrey is directly derived from London. If the disease were stamped out in London there would be very little left, and the Board of Agriculture might be relied on to use its power of compelling proper action by the authorities in the few other infected districts.

5—*Because the payment of compensation would be a heavy imposition upon the rates, unless some contribution were made from money voted by Parliament.*

There are many heavier impositions upon the rates; and the only question that requires consideration is—would the expenditure be justified by the result? In other words, is it worth the while of the inhabitants of London to suppress glanders?

The facts are—that 2000 horses are destroyed every year in London by glanders, causing a loss of about £50,000; that every year several human beings are fatally infected by this most loathsome and virulent disease; that it cannot be got rid of by individual effort; that no stud is safe so long as any diseased horses are permitted to exist; that in a period of five years, authorities are agreed, the disease might be practically exterminated.

The cost of compensation would be greatest for the first year, and would in each successive year show a decrease of quite 50 per cent. on the previous one. There is no probabilty of the total cost reaching £100,000 before glanders is stamped out in London, so that we can easily estimate what would be required to render human lives safe, prevent an immense amount of animal suffering, and save the community a yearly loss of £50,000.—Surely an economical and beneficial proceeding for our local government!

It is argued that compensation should be paid out of Taxes, not out of Rates, and the Parliamentary grant for Cattle Disease is pointed to as a precedent. The only analogy between glanders and cattle disease is that they are both contagious. Their spread and prevalence obey quite different laws.

The Contagious Diseases of Cattle were introduced into this country from Europe in the memory of persons living, and then spread like wild-fire all over the kingdom. Clearly, local action could not control such plagues, and the central authority was obliged to act everywhere; central action was very properly accompanied by payment from central funds. Glanders on the contrary has existed in England for centuries. It spreads very slowly, and dies out spontaneously in country places when infection has been introduced by diseased horses from large towns.

London is the centre of infection. No less than 90 per cent of all the disease in England prevails there, and such local prevalence should be met by local action at local cost. When the proportion of disease in London equals that in other districts the County Council may have some claim for aid from national funds; but by that time the last case of glanders in England will be on its way to the slaughter house.

Obituary.

News of the death of Mr. Benjamin Cartledge, which took place at his residence in Norfolk Road, yesterday afternoon, will be received with a widespread feeling of regret. His illness was of but brief duration; and it was not until yesterday morning that his condition was regarded as critical. Mr. Cartledge was out on Monday morning, and went on a professional visit to Aston Hall, near Rotherham. Whilst there he became unwell, and instead of returning to his surgery in Norfolk Street, he drove to his residence and directed that Dr. Hunt, his medical man, should be sent for. On Dr. Hunt's arrival he found that Mr. Cartledge had got a severe chill, but no serious symptoms were then apparent, and it was thought that a few days' careful nursing would restore his health. On Tuesday morning pneumonia set in, and his daughter, Mrs. Alfred Eadon, of Meadow Field, Retford, was telegraphed for, and was quickly in attendance. But even then his condition was not regarded as serious; on the contrary, as the day went on he made decided advances towards recovery. At an early hour Wednesday morning, however, a sudden change for the worse took place, and Dr. Hunt and Dr. Porter, who was called in consultation, were unable to hold out any hope of recovery. Death took place at one o'clock Wednesday afternoon, the immediate cause being exhaustion consequent on the pneumonia attack.

Mr. Cartledge, who was 66 years of age, was born at Nottingham, and came to Sheffield as an articled pupil to the late Mr. Henry Taylor, who was the leading veterinary surgeon here, and shortly afterwards purchased Mr. Taylor's practice. His high professional attainments soon placed him at the head of his profession in Sheffield and the district, and that position he maintained to the end. His reputation as a highly-skilled veterinary surgeon was by no means confined to Sheffield, or indeed to the adjoining counties, for his services were in request in almost all parts of the country. Few men knew more about horses than he, and it is scarcely too much to say that both horses and other domestic animals never had a truer friend.

Mr. Cartledge was also veterinary inspector to the Sheffield Corporation, under the Contagious Diseases (Animals) Act, and he filled a similar appointment in this portion of the West Riding. For a long time he held a commission in the 1st West York Yeomanry Cavalry (now the Yorkshire Dragoons) as the veterinary surgeon. He resigned his commission some years ago. He was a director of the Sheffield Music Hall Company, and one of the committee of proprietors of the Theatre.

Mr. Cartledge took no part in public affairs, but probably no man was better known in Sheffield or was held in higher estimation. Mr. Cartledge was married to a Sheffield lady, Miss Eleanor Jarvis, who predeceased him. His only daughter is the wife of Mr. Alfred Eadon. The funeral will take place at Ecclesall on Saturday.

Sheffield and Rotherham Independent.

Outbreak of Glanders in Lincolnshire.

A meeting of the Cattle Diseases Committee for South Holland was held at Spalding recently, when an outbreak of glanders was reported at Crowland, on the premises of Mr. F. Cherrington. A valuable pony was badly attacked, and it was feared that the disease would spread to other horses which had been in contact. It was stated that this was the first case of the character which had been reported since the County Councils had had jurisdiction in the matter. It was looked upon as a very dangerous and incurable disease, and the owner was advised to slaughter at once, though the committee pointed out that they had no power to give compensation.

CORRESPONDENCE.

PROFESSIONAL ETIQUETTE.

SIR,

Much has been written lately about professional veterinary etiquette. In the neighbourhood in which I live there are five veterinary surgeons, all Members of the Royal College of Veterinary Surgeons. Lately there has come into our midst a sixth, who has taken a house and opened a forge, has a large board hanging over the front path, the wall adjoining written over, and a plate on the railing of his house. Cards of a type have been scattered over the whole neighbourhood announcing to the public that he (the vet.) has had great experience, and that he is preprred to pay professional visits, including medicine, for 3s., the card goes on to say that the charges for professionally treating dogs, including keep at his infirmary are 6s. 6d., 7s. 6d., and 10s. 6d. per week, according to the size of the dog. Of this I do not complain, though I consider it a very low level, but he has gone much further. He called on a very great friend of mine, who has about 25 horses, and personally endeavoured to persuade him to leave and come to him, he being nearer etc. Nor is his wife less energetic, she called on another friend of mine and said Mr. ——— "My husband says if you don't send him your horses to shoe, I am not to deal with you." (Coercion with a vengeance). I need hardly say my friend has not sent his horses, but the veterinarian has withdrawn his custom from my friend.—Yours truly,

"OUT IN THE COLD."

THE FELLOWSHIP DEGREE.

SIR,

In your issue of Dec. 3rd, there appears a letter from Mr. Garnett, wherein he states that he looks on the Fellowship Degree as a "fraud on the public, and a disgrace to the profession."

Now, I should like to know, from him, on what grounds he makes such a sweeping assertion, and whether his knowledge, with reference to the examination for the degree is founded on fact or personal experience.

As one of those who were candidates at the last examination at London, I must say that the examination was neither a fraud nor a disgrace. The written papers set were such that required the candidate to show that he had read and kept up his work carefully and well, and I do not see how the questions could have been made anything more searching. The same must be said of the oral examination. We often hear the remark made, that the examination is a farce, and all that is required is to pay the fees in order to obtain the degree. It seems strange, however, that the gentlemen who make such statements never try the experiment themselves.

If they wish to prove the examination is a fraud and a disgrace, let one of their number present himself, without any preparation whatever, and if he succeeds he will then be a benefactor to the profession, by exposing the system of examination and the examiners.

But statements such as are usually made in this direction are of no value as they are not founded on fact. It would be interesting to know on what lines the examination should be conducted, by those who are discontented at the present system. It is surely quite severe enough, theoretically speaking, at present to please the most fastidious and scientific—whether a practical portion should be added is a question on which many would differ. At any rate in the examinations held for higher degrees in human medicine the latter addition is not made, and we cannot do better than to follow in their footsteps.—Yours, etc.

E. WALLIS HOARE, F.R.C.V.S.

Cork, Dec. 4th, 1892.

SIR,

That Mr. T. H. Merrick should set himself up as a preceptor of good manners, and in the same sentence introduce personalities in such a discussion as this, is, to say the least, anomalous.

That my assertions have anything to do with my age I fail to see, and if they are true, which Mr. Merrick does not attempt to deny, then they are neither too strong nor in bad taste.

His method of introducing personalities is certainly not new, but it is one which I thought would hardly have been used by a "Fellow" as the *only* defence of his degree.—Yours truly,

FRANK W. GARNETT.

A SUGGESTION.

SIR,

As the examinations are now being held, I beg to suggest that list of the gentlemen successful in obtaining their diplomas be forwarded to the Press, as is done in the medical and other professions.

Perhaps some member of the Council would kindly take the subject up.—Yours faithfully,

O.K.S.

A HORSES' HOSPITAL.

The enclosed cutting is from a national fireside journal and review called *The News*. I should be inclined to advocate the founding of a "Veterinary" Workhouse by the side of The Horses' Hospital, for I feel sure many in our profession will need one, if Mr. Atkinson's suggestions are fully carried out.—Faithfully yours,

JOHN BLAKEWAY.

Mr. John Atkinson, F.R.C.V.S., advocates the founding of an East London branch of the Horses' Hospital, with out and in-patient departments, where help may be obtained free for horses by all those poor men, costers and others, who would willingly give their faithful animals medical treatment if they had the wherewithal to pay for it. The sufferings of London's ten times ten thousand horses in a single day would make one sicken with horror and amazement, if we could but realise them. Alas, poor dumb brutes! And nothing is done for them.

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Messrs. F. W. Garnett, S. Locke, J. Blakeway, J. Armstrong, W. Carless, J. W. Crowhurst, T. B. Goodall, H. O. Rickard, A. Eadon, J. M. Axe, "Garstang," "The Herefordshire Standard," "Calendar of the R.V.C." "Spratt's Patent" Calendar 1893.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers, containing facts of interest.